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REVIEW OF WATER-QUALITY DATA
NSL AND ECC SITES
BOONE COUNTY, INDIANA

Prepared for
Northside Landfill Technical Committee

September 1987

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Review of Water-Quality Data
NSL and ECC Sites
Boone County, Indiana

INTRODUCTION

Geraghty & Miller, Inc. was retained by the Northside Landfill Technical Committee to compile and evaluate water-quality data collected from two adjacent sites in Boone County, Indiana. The sites are the Northside Sanitary Landfill (NSL) and the Environmental Conservation and Chemical Corporation site (ECC).

A major result of the work is the completion of the accompanying set of tables (Appendix A) showing important inorganic and organic indicators measured during the whole monitoring period for the two facilities. The tables were prepared for several reasons.

1. No data base was available that summarized results from both early and recent rounds of sampling.
2. In an effort to gauge the impact that the NSL and ECC sites may be having on the environment, the tables and the data evaluation are focused on diagnostic indicators. The Methodology section describes how these were selected.

3. The tables show the number of samples collected for each surface or ground-water location. A review of the amount of data is one means of evaluating data reliability.
4. Data reliability is also characterized in the tables because the highest and lowest values are recorded for the entire monitoring period. At locations with multiple samples, the magnitude of the data spread is highly informative. Where all values are low, the sampling location is reliably considered to be uncontaminated; all high values indicate the clear presence of contaminants.
5. The tables include surface-water, ground-water, (on site and off site including homeowner wells) and leachate results. A comparison of results helps to show at what location the surface-water and ground-water systems are connected. A review of offsite and upgradient ground-water data also helps to establish a water-quality benchmark, which can be used to distinguish contaminated from uncontaminated locations.

The remainder of this report is divided into three sections. The first describes the methodology used to create the tables and an indication of how they can be used.

A brief synopsis of the results for each sampling location follows the methodology section. Finally, a broader view is provided in the form of conclusions about the data. Maps are provided with the report to show the approximate locations for the sampling points included in the tables.

METHODOLOGY

All ground-water, surface-water, and leachate data made available to Geraghty & Miller, Inc. were processed for inclusion in the accompanying tables (Appendix A), which show the high and low value, and the number of analyses for each location. There are 76 ground-water locations (including blanks and residential wells), 11 leachate samples, and 71 surface-water locations (including blanks). Ground-water locations are shown in Figure 1, residential well locations are shown in Figure 2, and surface-water sampling locations are shown in Figure 3. In some cases, surface-water locations appear to be close together, but documentation was insufficient to allow the data to be definitely considered as from one location. Therefore, separate listings are shown. In addition, separate data sets include analyses of water samples from the same location. These were kept apart based on sampling agency and/or time period of the sampling events to further clarify the data base.

In order to provide for an effective overview, only selected constituents are included in the tables. Several indicators of municipal landfill refuse were included without regard to the values. These constituents include

Specific conductance	Total organic carbon
Total dissolved solids (TDS)	sodium
Chloride	hardness
Chemical oxygen demand	iron

Several inorganic constituents including cyanide, nickel, mercury, and lead are included because they occurred at 50 ug/L (ppb) or above primary drinking water standards in one or more samples. Other toxic metals failed to meet either of these tests and therefore, are not presented in the tables.

Organic compounds, primarily volatile and base/neutral extractable, were listed in the tables if the compound was quantified above 10 ug/L in one or more samples somewhere on the sites.

Over 100 organic compounds were tested for during various studies, but many were never detected nor quantified above 10 ug/L, so a manageable list of organic compounds was created.

Because the data base extends over eight years and many laboratories have been involved, methods of analysis and data reporting vary. We have been as consistent as possible in the summary tables, but there is no way, short of myriad

footnotes or a substantially more cumbersome format, to accommodate the reporting variations. Two examples illustrate the difficulties.

1. Total dissolved solids can be determined by calculation or by drying a sample and weighing the residue. The results can be somewhat different.
2. Analysis and reporting of cis- and trans-1,2 dichloroethene isomers vary from one laboratory to the next. In the data tables, 1,2-dichloroethene is listed and may refer to either or both isomers.

Our object has been to make the tables informative and useful as an interpretative tool. The variations in reporting of the type illustrated above are not sufficiently important to materially bias the data base. Appropriate and technically defensible recommendations for remedial programs can be derived from the information in these tables. Considering the wide variations in data from one sampling round to the next, a remedial program can be justified more strongly with an overview and interpretation of all the available data than with a review of only a data subset.

OVERVIEW CHARACTERIZATION FOR EACH SAMPLING LOCATION

Introduction

This section includes a brief assessment of the water quality for each ground-water, surface-water and leachate sampling location. The assessments are made with respect to what is generally considered background conditions for the area and covers both inorganic and organic constituents. The reliability of the judgments about whether a location is contaminated or not is indicated; these conclusions are drawn largely from the consistency of the analytical record through time and incorporate insights into sampling and analytical problems such as blank contamination.

Ground-Water Locations

MW1. For some inorganic constituents, 20 or more analyses have been performed and the concentrations clearly exceed background levels; the ground water at that location shows the presence of typical municipal landfill leachate. VOC concentrations vary widely from ND to 1000s of ug/L. The preponderance of the evidence indicates VOC contamination.

MW1C. This well, now destroyed, showed high inorganic content and thus, indicates leachate impact. Only two or three rounds of VOC data are available and the results conflict; no firm conclusion about organics contamination can be made for this location.

MW2. Many samplings show background levels of inorganic constituents. Chlorinated VOCs are absent. Acetone, 2-butanone, and 4-methyl-2-pentanone (commonly a laboratory artifact resulting from acetone analysis) are reported sporadically but can not reliably be judged to be present in the ground water. Acetone and to some degree 2-butanone (also known as methyl ethyl ketone or MEK) are used

as cleaning solvents in the laboratory and in the field, and frequently contaminate field samples.

MW3. No inorganic or organic contamination is indicated.

MW4. Although the one lead value is high (1.87 mg/L) it is unconfirmed, and other inorganic parameters do not indicate the presence of contamination. There is insufficient data to evaluate organic water quality.

MW4A. No inorganic contamination is indicated. Methylene chloride was reported at 75 ug/L, but this compound is a known and common laboratory contaminant, and at this level, is not judged to be an indication of ground-water contamination.

MW5. Although inorganic concentrations vary over a fairly wide range, even the highest values do not confirm the presence of leachate contamination. No organics contamination is indicated.

MW6. No inorganic contamination is indicated, and aside from acetone, no organics contamination is reported. Only one of the four acetone values is high; the 190,000 ug/L value was reported in 1981. The other three values are ND, 10J ug/L and ND and were reported for samples taken in 1985. The high acetone value does not appear to indicate ground-water contamination.

MW7. No inorganic or organic contamination is indicated.

Well (Soil Boring Piezometer) 68. No inorganic contamination is indicated. Chloroform is the only organic compound that is reported in the one sample from this well and in a number of other single samples from soil boring piezometers installed along the unnamed ditch. Because we have seen chloroform occur as a laboratory artifact and because it is the only organic compound reported in several piezometers, we would need to see confirming results before concluding that chloroform is actually present in the ground-water system.

Well (Soil Boring Piezometer) 69. No inorganic contamination is indicated. Chloroform is the only organic compound that is reported in the one sample from this well and in a number of other single samples from soil boring piezometers installed along the unnamed ditch. Because we have seen chloroform occur as a laboratory artifact and because it is the only organic compound reported in several piezometers, we would need to see confirming results before

concluding that chloroform is actually present in the ground-water system.

Well (Soil Boring Piezometer) 70. No inorganic contamination is indicated. Chloroform is the only organic compound that is reported in the one sample from this well and in a number of other single samples from soil boring piezometers installed along the unnamed ditch. Because we have seen chloroform occur as a laboratory artifact and because it is the only organic compound reported in several piezometers, we would need to see confirming results before concluding that chloroform is actually present in the ground-water system.

Well (Soil Boring Piezometer) 71. Elevated TDS and specific conductance values indicate inorganic contamination. No organics were detected.

Well (Soil Boring Piezometer) 72. Inorganics are present at levels indicating impact as is the case for Well 71. Chloroform is also reported; see the Well 68 chloroform discussion. Substantive organics contamination is not confirmed or indicated.

Well (Soil Boring Piezometer) 73. Elevated TDS and specific conductance values indicate inorganic contamination. Traces of three organic compounds (chloroform, 1,1,1-trichloroethane, and trichloroethene) were detected but this location, especially compared to others, would not be characterized as being contaminated with VOCs.

Well (Soil Boring Piezometer) 74. No inorganic contamination is indicated. The organics results are comparable to that for Well 73; see the discussion above.

Well (Soil Boring Piezometer) 75. No inorganic contamination is indicated. Chloroform and methylene chloride are both reported at greater than 100 ug/L. These compounds can be laboratory artifacts and their presence in ground water at this location has not been confirmed.

Well (Soil Boring Piezometer) 76. No inorganic contamination is indicated. Chloroform is reported at greater than 100 ug/L. This compound can be a laboratory artifact, and its presence in ground water at this location has not been confirmed.

Well (Soil Boring Piezometer) 79. No inorganic contamination is indicated. A high reading for 2-butanone (1400 ug/L) was reported; in addition, five chlorinated VOCs were detected at levels below 100 ug/L. Even if the occurrence of 2-butanone is discounted, the presence of a variety of other VOCs indicate the probable presence of organics contamination at this location.

Well (Soil Boring Piezometer) 57. No inorganic or organic contamination is reported.

Well (Soil Boring Piezometer) 60. TDS and specific conductance values are somewhat above background levels. Three VOCs are reported at levels above 50 ug/L indicating, subject to confirmation, low-level organics contamination.

SBP54. Inorganic and indicator values are high. Insufficient data are reported to assess organics contamination.

SBP55. Inorganic concentrations are elevated above background levels. Trace occurrences of two chlorinated VOCs are not an important indication of organics contamination, especially when compared to data for SBP56 (next entry).

SBP56. Inorganic concentrations are elevated above background levels. Substantial organics contamination (aromatic and chlorinated VOCs, and phenol) was reported for the one sample analyzed.

MW1A. No inorganic contamination is indicated. Two rounds of organics data are available and the results do not agree. VOCs were not detected in one round and two VOCs were reported at 40-60 ug/L in the other round. At worst, it appears that this location may have had low-level organics contamination.

MW2A. No inorganic or organic contamination is indicated.

NSL8SA. No inorganic or organic contamination is indicated.

NSL9S. Several inorganic indicators are substantially elevated over background levels. In contrast, there is no indication of organic contamination.

NSL10S. Inorganic concentrations are elevated above background levels. The two rounds of organics data do not agree; at worst only trace levels of organics are present and this is not an important organics location.

NSL11S. No inorganic contamination is indicated. Very different values for toluene and acetone were reported for the two rounds of analysis. Acetone is a laboratory and field cleaning agent and its presence in ground water is suspect. Although toluene has been seen as a laboratory contaminant, it is not commonly so. Although it does not appear that substantial organic contamination is present at

this location, additional sampling would be required for confirmation.

NSL14. Inorganic concentrations are very high, especially as shown by specific conductance, TDS, and chloride. Organics data for the two sampling rounds are not in agreement; only xylenes are quantified without EPA qualifications in both rounds. At worst, the organics level at this location is low, especially in comparison to high inorganics concentrations.

NSL15. No inorganic contamination is indicated. The organics data for the two sampling rounds do not agree. Several compounds, including acetone and trichloroethene, are detected one time and not the other. Considering the problems with acetone and the low concentrations, no organics contamination is indicated.

NSL16. No inorganic contamination is indicated. Organics contamination is evident at this location, especially fuel components xylenes, benzene, toluene, and naphthene compounds. Acetone and 2-butanone were also reported but at widely varying concentrations. Aside from an inconsistent reporting of methylene chloride, no chlorinated VOCs were reported. This observation reinforces the concept that fuel is the source of the contamination.

NSL18. Inorganic concentrations are elevated above background levels. Traces of aromatic VOCs were reported in one round of samples and not in the other. This location is not substantively contaminated by organics.

NSL8DA. No inorganic or organic contamination is indicated.

NSL9D. Inorganic concentrations are elevated above background levels. Aside from acetone, no organics contamination is indicated. Acetone does not appear to represent a problem; it appeared in only one of the three analyses, and it is a known laboratory contaminant.

NSL10D. No inorganic contamination is indicated. Acetone was quantified in one of two samples and therefore, does not indicate organics contamination at this location.

NSL11D. No inorganic or organic contamination is indicated.

NSL12. Inorganic concentrations are substantially elevated above background levels. Trace levels of several halogenated organic compounds are consistently reported for the two sampling rounds, indicating that low-level organics contamination exists at this location.

NSL13. Inorganic concentrations are substantially elevated above background levels. Low levels of several halogenated VOCs are present consistently in the two sampling rounds thereby indicating organics contamination at this location. The highest concentration organic is 1,2 dichloroethene at 70-130 ug/L.

SBP65. Inorganic concentrations are substantially elevated above background levels. Benzene at 110-120 ug/L is the only consistently reported VOC.

SBP77. No inorganic or organic contamination is indicated.

ECC1A. No inorganic and, aside from acetone, no organic contamination is indicated. Two acetone values on different days were ND and two duplicates in one round were between 9700 and 9900 ug/L. The occurrence of acetone in ground-water is suspect.

ECC1C. No inorganic or organic contamination is indicated.

ECC2A. No inorganic contamination is indicated. In three rounds of data, only acetone has been reported above 20 ug/L. The three acetone values are ND, 640 and 3016B ug/L. Aside from the uncertain occurrence of acetone in ground water, no other organics contamination is indicated.

ECC2B. No inorganic or organic contamination is indicated.

ECC2C. No inorganic or organic contamination is indicated.

ECC3A. The specific conductance and sodium data show that inorganic contamination is present. Concentrations of several organic compounds, particularly halogenated VOCs, vary substantially among the four samples analyzed. However, it appears that low level VOC contamination has been present at this location.

ECC3C. No inorganic contamination is indicated. Only methylene chloride at trace levels and acetone are reported among organic compounds. The two acetone values are very different; ND and 551 ug/L. Unless the presence of acetone is confirmed, organic contamination is not indicated at this location.

ECC4C. No inorganic or organic contamination is indicated.

ECC5A. No inorganic contamination is indicated and, except for an inconsistent record for acetone, no organic contamination is indicated either.

ECC6A. Low-level inorganic contamination is indicated by specific conductance and sodium data. Except for inconsistent records for acetone and methylene chloride, two laboratory chemicals, no organic contamination is indicated.

ECC7A. Specific conductance for this location is equivalent to background. The highest lead value is in excess of the federal drinking water standard, but the other two are well below. Trace VOC contamination (less than 100 ug/L) appears to be present some of the time, but not consistently. If this location is truly contaminated, it is not contaminated at high levels.

ECC8A. No inorganic contamination is indicated. Trace levels of several halogenated VOCs (up to 21 ug/L of trichloroethene) are reported. This location appears to be mildly contaminated.

ECC9A. No inorganic analyses have been performed. Although 41 ug/L of acetone was reported, this compound appeared in the blank, and its apparent presence does not indicate organic contamination.

ECC10A. No inorganic contamination is indicated. Traces of several halogenated VOCs are reported, indicating low-level organics contamination.

ECC11A. No inorganic analyses have been performed. Based on the results of one sampling round, this location is substantially contaminated with two organic compounds: 1,2-dichloroethene (4000 ug/L) and trichloroethene (28,000 ug/L). The appearance of these two compounds does not necessarily mean they were both spilled or leaked into the soil. 1,2-dichloroethene is a known environmental breakdown product of trichloroethene.

Residential Wells

RW1. No inorganic or organic contamination is indicated.

RW2. TDS, specific conductance and hardness are slightly elevated, but the difference from background may not be significant. No organics contamination is indicated.

RW3. No inorganic contamination is indicated. Except for phenol, which was not detected, no organics were tested for.

RW4. No inorganic or organic contamination is indicated.

RW5. No inorganic or organic contamination is indicated.

RW6. No inorganic or organic contamination is indicated.

RW7. TDS and hardness appear to be slightly elevated, but the difference from background values may not be significant. No organic contamination is indicated.

RW8. Only a few inorganic analyses were performed. Sodium and lead were each elevated in one of three samples. Among organic constituents, tetrachloroethene and methylene chloride were each detected in one sample.

RW9. No inorganic or organic contamination is indicated.

RW10. No inorganic contamination is indicated. Except for phenol, which was not detected, no organics were tested for.

RW11. TDS and hardness appear to be slightly elevated, but the differences from background values may not be significant. No organics contamination is indicated.

RW12. No inorganic or organic contamination is indicated.

RW13. No inorganic contamination is indicated. Except for phenol, which was not detected, no organics were tested for.

RW14. No inorganic or organic contamination is indicated.

RW15. No inorganic or organic contamination is indicated.

RW16. TDS, specific conductance and sodium appear to be slightly elevated, but the difference from background values may not be significant. No organics contamination is indicated.

RW17. No inorganic data have been reported. As shown by VOC data, no organic contamination is indicated.

Surface-Water Locations

A, 1980-1983, Finley Creek at Hwy 421. Inorganic water quality has varied. For example, specific conductance has ranged from 341 to 1215 umho/cm and lead has ranged from 0.005 to 0.057 mg/L. These ranges may reflect varying flow volume and different contributions of base flow and runoff. Organics concentrations have varied from ND to 1000 ug/L for 1,2-dichloroethene and ND to values in the 100s of ug/L for six other organic compounds. Phenol values ranged from ND to 2200 ug/L. Most high organic values correspond to a sample taken on 10-26-82, which predates the ECC cleanup.

SW004, July 1983, Finley Creek at Hwy 421. No inorganic contamination is indicated. Several halogenated VOCs were reported; 1,2-dichloroethene at 330 ug/L is the highest.

IWC, 1984-86, Finley Creek at Hwy 421. No inorganic data are reported. Numerous samples were taken and analyzed for VOCs. Concentrations varied from ND or trace amounts to values over 100 ug/L (cis-1,2-dichloroethene, 191 ug/L; 1,1,1-trichloroethane, 176 ug/L).

SR421, March 1987, Finley Creek at Hwy 421. No inorganic data are reported. VOC concentrations were low; 23 ug/L for cis 1,2-dichloroethene is the highest value.

B, July 1980, Unnamed Ditch, downstream. Only lead (0.08 mg/L) and chromium (0.06 ug/L) data were reported. Both values exceed current federal drinking-water standards. No organics data were reported.

C, 1980-81, Unnamed Ditch, downstream. Both indicator and organic data vary during the period. COD shows the widest range (0.004 to 1500 mg/L). 2-butanone (270 ug/L) and several halogenated VOCs were reported in concentrations above 20 ug/L.

D, October 1981, Unnamed Ditch, downstream. No inorganic data were reported. VOC concentrations vary widely. Compounds reported above 100 ug/L are 2-butanone (1900 ug/L), methylene chloride (350 ug/L), and 1,1,1 trichloroethane (570 ug/L).

E, 1979-81, Unnamed Ditch, downstream. Little inorganics data are available; the two COD values (0.004 and 46 mg/L) are widely spread. Similarly, organics data vary widely in various samples. Examples include 2-butanone (ND and 210 ug/L), 1,2-dichloroethene (ND and 45 ug/L), trichloroethene (1 and 122 ug/L) and phenol (ND to 2000 ug/L).

F, August 1979, Unnamed Ditch, downstream. Insufficient data are available to assess water quality.

G, April 1980, Unnamed Ditch, downstream. Single COD and phenol values are high and the two chromium values differ (ND and 0.61 mg/L). Little additional data are available.

H, April 1980, Unnamed Ditch, downstream. Insufficient data are available to assess water quality.

J, April 1980. No inorganics data are reported. No organic contamination is indicated.

K, April 1980, Unnamed Ditch, upstream. No inorganic data are reported. No organic contamination is indicated.

L, August 1980, Finley Creek, upstream. Insufficient data are available to assess water quality.

M, August 1980, Eagle Creek, upstream. Insufficient data are available to assess water quality.

N, March 1981, Unnamed Ditch at Taylor Rd. Insufficient data are available to assess inorganic water quality. VOC data show that no organic contamination is indicated.

SW002 (ECC), July 1983, Unnamed Ditch at Taylor Rd. No inorganic or organic contamination is indicated.

SW002 (NSL), 1984-85, Unnamed Ditch at Taylor Rd. No inorganic or organic contamination is indicated.

P, 1980-82, Finley Creek at Rte 32. No inorganic or organic contamination is indicated although traces of tetrachloroethene (5 ug/L) and toluene (3 ug/L) were reported.

SW012, 1984-85, Finley Creek at Rte 32. No inorganic or organic contamination is indicated.

SR32, March 1987. No inorganic data have been reported. As shown by VOC data, no organic contamination is indicated.

Q, March 1981. Little inorganic data are reported; a lead value of 0.25 mg/L appears. Traces of two VOCs appeared: tetrachloroethene (2 ug/L) and 1,1,1 trichloroethane (5.6 ug/L). Only one round of data are available at this location, so these trace quantities have uncertain meaning until confirmed.

R, March 1981. Insufficient data are available to assess inorganic water quality. Traces of tetrachloroethene (1.2 ug/L) and 1,1,1 trichloroethane (9.1 ug/L) are reported for this sample as they are for the sample from location Q.

S, 1982-83, Eagle Creek, downstream. No inorganic contamination is indicated. Except for bis(2-ethylhexyl) phthalate, no organic contamination is indicated. Concentrations for bis(2-ethylhexyl)phthalate vary widely from ND to 760 ug/L. Because this compound is widely present in the environment and in the laboratory, its presence in surface water is not substantiated.

ISBH-4-80, Finley Creek, upstream. No indication of contamination is evident. Except for iron, no data for metals or organics were reported.

ISBH-10-82, Finley Creek, Old Channel. Only values for three indicators (TDS, Chloride, and COD) are reported, and they provide evidence of inorganic contamination. No organics data are reported.

SW001 (NSL), 1984-85. No inorganic or organic contamination is indicated.

SW003 (NSL), 1984-85, Finley Creek east of NSL. No inorganic or organic contamination is indicated.

SW004 (NSL), 1984-85, Finley Creek south of NSL. TDS is relatively high compared to other Finley Creek samples taken in the same sampling round. As in other samples in this series, low levels of cyanide were reported (0.02 mg/L at this location and 0.01 to 0.03 mg/L elsewhere). More analysis is required to determine the source. No organic contamination is indicated except for one value of 146 ug/L bis(2-ethylhexyl)phthalate.

SW005 (NSL), 1984-85, Finley Creek south of NSL. Aside from cyanide at 0.02 to 0.03 mg/L, no inorganic or organic contamination is indicated.

SW006 (NSL), 1984-85, Finley Creek South of NSL. Aside from cyanide at 0.01 to 0.02 mg/L, no inorganic or organic contamination is indicated.

SW008 (NSL), 1984-85, Finley Creek downstream of Un-named Ditch. No inorganic contamination is consistently indicated (cyanide varies from ND to 0.02 mg/L). The organic data suggest trace contamination by halogenated VOCs (1,2 dichloroethene, 6.3-27 ug/L; 1,1,1 trichloroethane, ND-5.3 ug/L). Bis(2-ethylhexyl)phthalate is also variably reported (ND-108 ug/L).

SW010 (NSL), 1984-85, Unnamed Ditch east of ECC. High values for specific conductance, TDS, and chloride demonstrate inorganic contamination. A variety of organic constituents are reported, including acetone, benzene, 2-butanone, 4 methylphenol, and phenol.

SW011 (NSL), 1984-85, Former Finley Creek. No inorganic or organic contamination is indicated.

SW001 (ECC), July 1983, Finley Creek at Rt. 32. No inorganic or organic contamination is indicated.

SW003 (ECC), July 1983, Finley Creek south of NSL. No inorganic or organic contamination is indicated.

SW007 (ECC), December 1984, Ponded Water on ECC property. No inorganic contamination is indicated. A variety of organic compounds are reported at low to moderate levels, including some with common reporting problems (acetone, 1100 ug/L; 2-butanone, 560 ug/L; methylene chloride, 83 ug/L) and others not associated with reporting problems (for example, trichloroethene, 240 ug/L; isophorone, 240 ug/L).

SW008 (ECC), December 1984, Ponded Water on ECC property. No inorganic contamination is indicated. As with sample SW008, a variety of organics is reported at low to moderate levels. The detected compounds are the same in SW007 and SW008.

SW009, December 1984, Ponded Water on ECC property. No inorganic contamination is indicated. The organics imprint in SW009 is similar to that in SW007 or SW008 except that the concentrations are an order of magnitude lower.

FC01, February 1984, Finley Creek at Rte. 32. No inorganic data are reported. VOC results show that no organic contamination is indicated.

FC02, February 1984, Finley Creek upstream. No inorganic data are reported. VOC results show that no organic contamination is indicated.

FC03, February 1984, Finley Creek at Hwy 421. No inorganic data are reported. A trace of two VOCs (1,1,1 trichloroethene, 3.1 ug/L and trichloroethene, 1.9 ug/L) were reported, all other compounds were ND.

UN01, February 1984, Unnamed Ditch, downstream. No inorganic data are reported. A variety of halogenated VOCs are reported at trace levels (0-10 ug/L) and 2-butanone is reported at 50 ug/L).

UN02, February 1984, Unnamed Ditch at NSL access road. No inorganic data are reported. As with UN01, several

halogenated VOCs were reported at trace levels, and 2-butanone appears at 120 ug/L.

UN03, February 1984, Unnamed Ditch at Taylor Rd. No inorganic data are reported. VOC results show that no organic contamination is indicated.

S32, March 1985, ECC southeast ditch. No inorganic data are reported. This sample is substantially contaminated with VOCs including, in descending concentration, 1,1,1 trichloroethane (15,000 ug/L), acetone (12,000 ug/L), methylene chloride (12,000 ug/L), trans 1,2-dichloroethene (8,600 ug/L) and trichloroethene (4,600 ug/L).

S33, March 1985, ECC, West ditch. No inorganic data are reported. Several VOCs are reported at moderate levels, including 1,2-dichloroethane (500 ug/L), trichloroethene (140 ug/L), methylene chloride (130 ug/L), and 1,1,1-trichloroethene (110 ug/L).

S1, SW1, May, June 1987, Finley Creek, downstream. Insufficient data are available to assess inorganic water quality. Low levels of several VOCs are reported including cis 1,2-dichloroethene (19-35.5 ug/L), 1,1,1-trichloroethene (5 ug/L), and trichloroethene (ND-6.6 ug/L).

S2, SW2, May, June 1987, Finley Creek, downstream. Insufficient data are available to assess inorganic water quality. Low levels of several VOCs are reported including cis 1,2-dichloroethene (21-36.6 ug/L), 1,1,1-trichloroethene (5.5 ug/L), and trichloroethene (ND-8.3 ug/L).

S3, SW3, May, June 1987, Finley Creek, downstream. Insufficient data are available to assess inorganic water quality. Low levels of several VOCs are reported, including cis 1,2-dichloroethene (6.8-23 ug/L), and 1,1,1 trichloroethane (5.4-6.8 ug/L).

S4, SW4, May, June 1987, Finley Creek, downstream. Insufficient data are available to assess inorganic water quality. Several VOCs are reported, including cis-1,2-dichloroethene (19-38.7 ug/L), 1,1,1-trichloroethane (4.9 ug/L), and trichloroethene (ND-8.2 ug/L).

S5, SW5, May, June 1987, Finley Creek, downstream. Insufficient data are available to assess inorganic water quality. VOC data show that no organic contamination is indicated.

S6, SW6, May, June 1987, Unnamed Ditch, downstream. Insufficient data are available to assess inorganic water quality. Three VOCs are reported at low levels: chloroethane (26-68 ug/L), cis-1,2-dichloroethene (24-24.1

ug/L), and 1,1-dichloroethane (10.1-27 ug/L). In addition, acetone (124 ug/L) and 2-butanone (86 ug/L).

S7, SW7, May, June 1987, Unnamed Ditch, downstream.
Insufficient data are available to assess inorganic water quality. VOC data show only acetone (101 ug/L) and 2-butanone (73 ug/L) above 3 ug/L. Because these compounds can be associated with laboratory contamination, no definitive judgment can be made regarding organic contamination at S7, SW7.

S8, SW8, May, June 1987, Unnamed Ditch, upstream.
Insufficient data are available to assess inorganic water quality. VOC data show only acetone (113 ug/L) and 2-butanone (86 ug/L) above 6 ug/L. Because these compounds can be associated with laboratory contamination, no definitive judgment can be made regarding organic contamination at S8/SW8.

S9, SW9, May, June 1987, Finley Creek, upstream.
Insufficient data are available to assess inorganic water quality. VOC results show that no organic contamination is indicated.

S10, SW10, May, June 1987, Finley Creek, upstream.
Insufficient data are available to assess inorganic water quality. VOC results show that no organic contamination is indicated.

S11, SW11, May, June 1987, Finley Creek, background.
Insufficient data are available to assess inorganic water quality. VOC results show that no organic contamination is indicated.

SW12, May, June 1987, Finley Creek, downstream.
Insufficient data are available to assess inorganic water quality. VOC results show that no organic contamination is indicated.

SW14, May, June 1987, Finley Creek, downstream.
Insufficient data are available to assess inorganic water quality. VOC results show that no organic contamination is indicated.

SW13, May, June 1987, Unnamed Ditch, downstream.
Insufficient data are available to assess inorganic water quality. The replicate samples taken from this location show evidence of low-level organics contamination.

SW15, June 1987, Unnamed Ditch, upstream of ECC.
Insufficient data are available to assess inorganic water quality. The VOC data show only acetone (110 ug/L) and 2-butanone (96 ug/L). Because these compounds can be associated with laboratory contamination, no definitive

judgment can be made regarding organic contamination at SW15.

SW16, June 1987, Unnamed Ditch, background. Insufficient data are available to assess inorganic water quality. VOC data show that no organic contamination is indicated.

SW30, June, 1987, Finley Creek, downstream. Insufficient data are available to assess inorganic water quality. A variety of VOCs are reported including four compounds over 100 ug/L: chloroethane (189 ug/L), cis-1,2-dichloroethene (164 ug/L), 1,1-dichloroethane (149 ug/L) and 1,1,1-trichloroethane (108 ug/L). Aromatic VOCs are also reported including xylenes, styrene, and ethylbenzene.

SW31, June 1987, ECC sump. Insufficient data are available to assess inorganic water quality. The sump water is substantially contaminated with a wide variety of halogenated and aromatic VOCs. Compounds in highest concentration are cis 1,2-dichloroethene, 1,1,1-trichloroethane, and 1,1 dichloroethane.

SW32, June 1987, NSL seep. The specific conductance value is elevated above background levels, but no other inorganic data are reported which would provide for a more definitive judgment about the inorganic character of the seep. VOCs reported at low levels in this sample were unusual in that they have appeared in few, if any, other samples in the study area. They include tetrahydrofuran (90-95 ug/L) and chloromethane (10-22 ug/L).

ECC Cooling Water Pond, 1979-82. Although the concentrations range widely, the complete record shows substantial organic contamination by a variety of compounds. Prominent among them are halogenated VOCs, toluene, phthalates, and phenol.

ECC South Drum Storage Pond, 1979-82. Concentrations vary widely, but in some sampling events substantial amounts of organics are reported. Prominent compounds include toluene, phenol, phthalates, ethyl benzene, and several halogenated VOCs.

ECC North Drum Storage Pond, 1979-82. High COD indicates the presence of substantial quantities of organic compounds. However, VOCs and extractable organics in high concentration (seven exceed 1000 ug/L) do not account fully for the 430,000 mg/L COD values. The difference may not be critical if much of the COD is derived from nontoxic or low toxicity organics. Of the high concentration organics, five are halogenated VOCs, and the other two are butylbenzylphthalate and phenol.

Leachate Samples

Tank #1, NSL. Inorganics and indicator values are high as would be expected for municipal landfill leachate. Methylene chloride is the only organic compound reported above 500 ug/L. However, the two methylene chloride values differ greatly (7 and 1690 ug/L) so no firm conclusions about its presence can be drawn. Xylenes at 480 ug/L is the organic compound with the next highest concentration.

Tank #2, NSL. Inorganics and indicator values are high as would be expected for municipal landfill leachate. Among organics, only xylenes has a consistently high value. Other compounds including acetone, 2-butanone, and 4-methyl-2-pentanone vary in concentration so widely (for example, acetone varied from ND to 57,000 ug/L) that it is difficult to assess the organics content of the leachate samples from Tank 2.

Tank #3, NSL. Inorganics and indicator values are high as would be expected for municipal landfill leachate. The highest lead value is 1.71 mg/L which is somewhat above other leachate samples. High levels of organics are reported. Prominent compounds include xylenes (11,000 ug/L), acetone (11,000J ug/L), 1,2-dichloroethene (1,300 ug/L) and 4-methyl-2-pentanone (2,000 ug/L). Other VOC compounds including 2-butanone and methylene chloride were high in one sample and ND in the other. Estimated concentrations for benzoic acid (1,460J ug/L) and 4-methylphenol (1,350J ug/L) are also reported.

LL001, NSL. No inorganic or organic contamination is indicated.

LL002, NSL. Inorganic and indicator values are high as would be expected for municipal landfill leachate. Four organic compounds were reported at high levels; acetone (44,000 B,J, ug/L), 2-butanone (27,000 B,J ug/L), 4-methyl-2-pentanone (3,500 ug/L), and methylene chloride (2,800B ug/L). These are commonly laboratory problem compounds, and considering the wide variation in concentration at other leachate locations, additional sampling and analysis would be required at LL002 before any conclusions can be drawn about the presence of VOCs.

S.E. Seep. No inorganic data are reported. Several organic compounds are reported, including phenol (1,758 ug/L), 4-methyl-2-pentanone (981 ug/L), dichlorodifluoromethane (758 ug/L), 1,2-dichloroethene (436 ug/L), and vinyl chloride (410 ug/L). This is an unusual group of compounds and this imprint has not appeared in any other surface water, ground water, or leachate sample taken from any location in the NSL or ECC study area.

CO183. Inorganic and indicator values are high as would be expected for municipal landfill leachate. Four organic compounds were reported at high levels; acetone (5,050 ug/L), 2-butanone (3,212 ug/L), 4-methyl-2-pentanone (529 ug/L), and methylene chloride (196 ug/L). These are commonly laboratory problem compounds, and considering wide variation in concentration at other leachate locations, additional sampling and analysis would be required at CO183 before any conclusions can be drawn about the presence of VOCs.

Trash Trench N. #1. Inorganic and indicator values are high as would be expected for municipal landfill leachate. Insufficient data are reported to assess organic contamination.

Trash Trench N. #2. Inorganic and indicator values are high as would be expected for municipal landfill leachate. Insufficient data are reported to assess organic contamination.

Water Sample, Trench #4. Little inorganic contamination is indicated. Insufficient data are reported to assess organic contamination.

OVERALL INTERPRETATION AND CONCLUSIONS

The data review presented in this report encompasses a great deal of information gathered during nearly a decade. As such, it was impossible, in a short period, to complete a comprehensive field, laboratory, and data reporting audit. Nonetheless, just the process of reviewing all the data and compiling onto one page the available data for each sampling location has provided some useful insights which are provided here.

1. Inconsistent Records

First and foremost is the observation that many sampling locations have inconsistent chemical records. It is apparent that some problems of consistency arise from such problems as blank contamination, mix-ups in detection limits, and typographical errors.

In the case of surface water, qualitative changes in water quality may indeed occur through time and for numerous reasons, including

1. Changes in flow by an order of magnitude or more and the resulting changes in dilution and proportions of base flow and runoff.

2. Effects of activities in adjacent areas which provide runoff to the surface water.
3. Changes in environmental conditions (for example temperature and wind velocity) that may alter water quality and sampling protocols.

Inconsistent chemical records are associated with many ground-water sampling locations. Sudden changes in ground-water quality are harder to explain because ground water moves very slowly, especially compared to surface water. In many cases, inconsistent parts of the record concern common laboratory and field cleaning chemicals (for example, acetone and methylene chloride).

2. Consistent Records

Whereas the tables and discussions included with this report show widespread data inconsistencies at many surface-water and ground-water locations, there are a number of data sets where the record is consistent, in some cases over the span of 20 sampling rounds or more. The site-by-site descriptions provided above identify these data and the corresponding locations, which if used, will form the surest basis for environmental analysis and remedial planning.

3. Inorganic Landfill Indicators

There is a substantial amount of inorganic data, especially associated with the NSL site. These data have been collected at a number of locations since 1979. The inorganic data record is generally consistent and should serve as an effective monitoring tool for NSL and to distinguish between the impacts of NSL and ECC, which appears to have a low inorganics output. Inorganics in monitoring systems can provide an early warning because of their high mobility. Other constituents like VOCs and extractable organics if released from NSL should be accompanied by inorganic salts, which will be detected first at monitoring wells.

4. NSL Impact on Surface Water

No measurable inorganic impact from NSL has been recorded in surface waters adjacent to the landfill. Because inorganic and organic contaminants (if present) are mixed in landfill leachate, no organics from the landfill are expected nor have they been found in adjacent surface waters, that is, in Finley Creek upstream of its confluence with Unnamed Ditch. The lack of inorganics in Finley Creek below this confluence suggests that organic compounds measured there are not coming from NSL. Aside from site SW010 (NSL), no locations along Unnamed Ditch have a

consistent record of both organic and inorganic contamination. Based on water-quality data, the degree of NSL impact on the Unnamed Ditch is uncertain and because of low flows relative to Finley Creek, the NSL effect, if any, on the Creek via the Unnamed Ditch is not likely to be measurable.

5. NSL Impacts on Ground Water

Toward the south, east and north, there is no indication of ground-water contamination derived from the NSL site. Only one well along these three sides has a record of organics (Well NSL 16, toward the northwest), but they are primarily aromatic fuel components and are out of character with organics found in NSL leachate tanks.

Southwest of the NSL site is the location of organics measured in ground water, but definitive source assignment is difficult because of complex hydrogeology and the multiple potential sources. Only a few wells have high inorganics and a variety of organics at low to moderate levels as would be expected for a large municipal landfill that contained a low percentage of solvent wastes. MW1, NSL12 and NSL13 fall into this category. SBP56 has both inorganic and organic contamination, but the organics levels are so high, that the source is likely to be primarily organic. SBP65 also has both inorganic and organic

contamination, but benzene is the only consistently reported organic compound (110-120 ug/L). This compound by itself is not specifically characteristic of NSL.

Respectfully submitted,
GERAGHTY & MILLER, INC.

Robert A. Saar, Ph.D.
Associate

David W. Miller
Principal

RAS/DWM:ts

REFERENCES

<u>Sampling Date</u>	<u>Analytical Laboratory</u>	<u>Laboratory Report Date</u>	<u>Lab Report # or Lab Sample I.D. #</u>
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LABORATORY REPORTSGround Water

9-15-76	O.A. Laboratories	9-21-76	LTR4613
3-21-80	O.A. Laboratories	4-3-80	LTR9128
12-4-79	O.A. Laboratories	4-7-80	LTR8747
6-4-80	Water Laboratory, Indiana State Board of Health (ISBH)	7-25-80	1532-1537
6-4-80	O.A. Laboratories	6-12-80	LTR9409
10-1-80	O.A. Laboratories	10-22-80	LTR9882
12-31-80	O.A. Laboratories	1-12-81	LTR10248
3-3-81	O.A. Laboratories	3-23-81	LTR10476
3-17-81	Water Laboratory, ISBH	8-5-81	T0056-62
7-1-81	O.A. Laboratories	8-17-81	LTR10964
7-2-81	Water Laboratory, ISBH	10-7-81	T0179-185
10-1-81	O.A. Laboratories	10-30-81	LTR11296
12-24-81	O.A. Laboratories	1-14-82	LTR11611
3-31-82	O.A. Laboratories	5-7-82	LTR11930
4-14-82	O.A. Laboratories	4-15-82	LTR11930
5-18-82	Water Laboratory, ISBH	10-4-82	T0050-57
10-25-82	O.A. Laboratories	11-5-82	LTR12651
10-28-82	O.A. Laboratories	11-4-82	LTR12666

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10-28-82	O.A. Laboratories	12-9-82	LTR12667
10-29-82	Water Laboratory, ISBH	1-10-83	T0186-191
12-29-82	O.A. Laboratories	1-31-83	LTR12854
6-17-83	O.A. Laboratories	7-20-83	LTR13328
9-28-83	O.A. Laboratories	10-6-83	LTR13594
7-22-83	Water Laboratory, ISBH	11-8-83	T0352-359
3-30-84	O.A. Laboratories	4-18-84	LTR14001
3-30-84	O.A. Laboratories	4-27-84	LTR13999
12-19-84	EMS	1-18-85	43622-43630
6-29-84	O.A. Laboratories	7-24-84	LTR14201
9-28-84	O.A. Laboratories	11-16-84	LTR14422
Uncertain	O.A. Laboratories	2-14-85	LTR14669
9-30-86	O.A. Laboratories	10-17-86	LTR16539
12-23-86	O.A. Laboratories	1-22-87	LTR16804
3-31-87	O.A. Laboratories	4-28-87	LTR17121

Residential Wells

8-14-79	Water Laboratory, ISBH	10-4-79	2220
9-5-80	Water Laboratory, ISBH	10-1-80	3244-3248
3-5-81	Water Laboratory, ISBH	4-10-81	T0001-11
6-28-82	Environmental Consultants, Inc.	8-82	30729
12-9-82	Water Laboratory, ISBH	12-21-82	T0199

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<u>Sampling Date</u>	<u>Analytical Laboratory</u>	<u>Laboratory Report Date</u>	<u>Lab Report # or Lab Sample I.D. #</u>
<u>Surface Water</u>			
6-8-79	Water Laboratory, ISBH	8-27-79	1360-1362
6-8-79	Water Laboratory, ISBH	2-5-80	1353-1359
8-14-79	Water Laboratory, ISBH	10-4-79	2218-2219
11-2-79	Water Laboratory, ISBH	2-14-80	D3100-3107
4-1-80	Water Laboratory, ISBH	5-2-80	0723-727
4-3-80	Water Laboratory, ISBH	5-19-80	0788
4-3-80	Industrial Hygiene Laboratory	Uncertain	5512
4-17-80	Water Laboratory, ISBH	5-22-80	0923-0929
4-17-80	Industrial Hygiene Laboratory	Uncertain	5531
4-29-81	Water Laboratory, ISBH	7-8-81	T0142-143
10-30-81	Water Laboratory, ISBH	9-21-82	T0315-316
10-18-82	O.A. Laboratories	10-29-82	LTR12639
10-6-82	Water Laboratory, ISBH	11-8-82	T0145
10-20-82	Water Laboratory, ISBH	11-4-82	LTR12638
12-16-83	Water Laboratory, ISBH	1-9-84	T0493-497
12-20-83	Water Laboratory, ISBH	1-9-84	T0500-502
2-15-84	Water Laboratory, ISBH	2-29-84	TH0026-32
3-4-85	Central Regional Laboratory, USEPA	4-2-85	85CY04S32-34
3-24-87	Montgomery Laboratories	3-31-87	H34044-H34047
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<u>Leachate</u>			
4-80	West Coast Technical Service, Inc.	5-80	E0038
9-27-82	O.A. Laboratories	10-1-82	LTR12558
10-11-82	O.A. Laboratories	10-21-82	LTR12613
10-25-82	O.A. Laboratories	11-5-82	LTR12651
11-3-82	Water Laboratory, ISBH	2-10-83	T0166-167
12-9-82	Water Laboratory, ISBH	12-21-82	T0200
11-29-82	O.A. Laboratories	12-10-82	LTR12759
4-18-85	Water Laboratory, ISBH	1-29-86	TH0088-89
10-6-84	O.A. Laboratories	12-7-84	LTR14535
10-15-86	Indianapolis Water Company	Uncertain	Unknown
10-27-86	Indianapolis Water Company	Uncertain	Unknown
12-4-86	Indianapolis Water Company	Uncertain	Unknown

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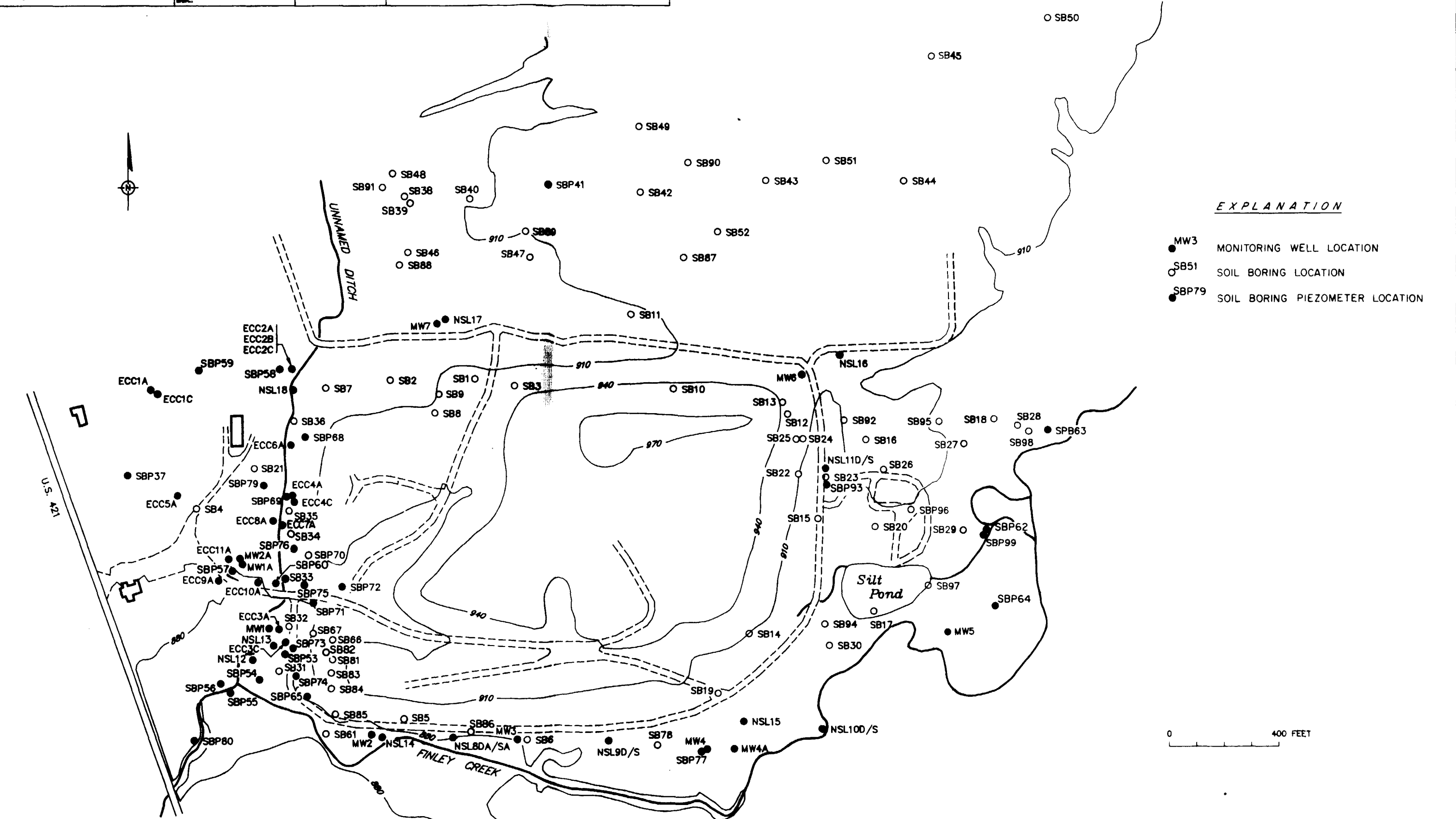
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CH₂M Hill, Ecology & Environment, 1986, Final Remedial Investigation Report, Northside Sanitary Landfill, Indiana, WA95.5LH2.0.

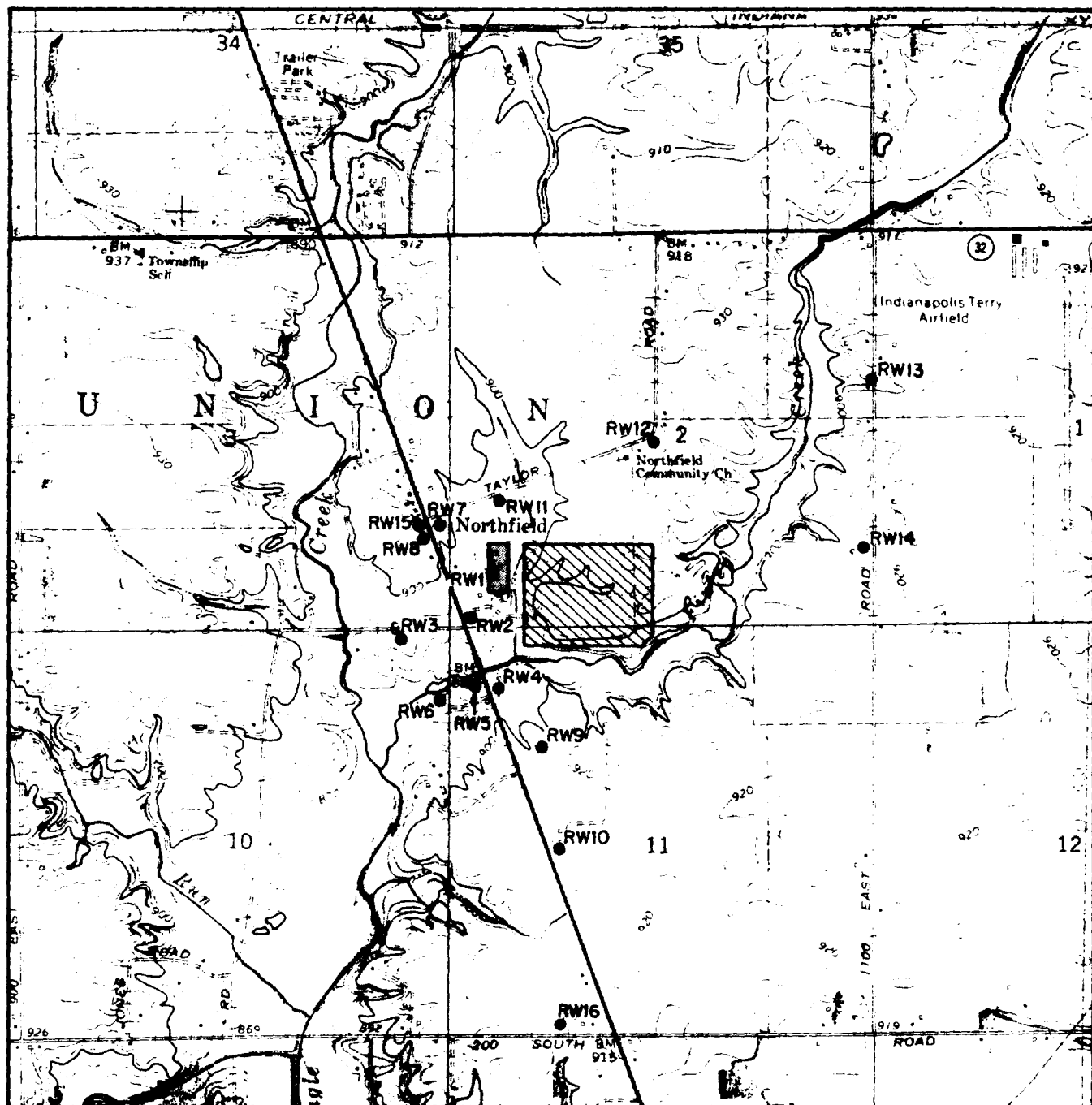
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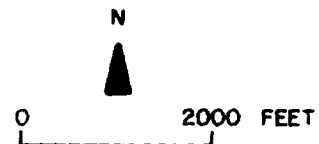


SUBJECT: GROUND-WATER MONITORING WELL AND SOIL BORING LOCATIONS AT ECC AND NSL SITES, BOONE COUNTY, INDIANA



EXPLANATION

-  NORTHSIDE SANITARY LANDFILL
-  ECC SITE
-  RESIDENTIAL WELL LOCATIONS



**RESIDENTIAL WELL SAMPLING LOCATIONS
NSL AND ECC SITES
BOONE COUNTY, INDIANA**

APPENDIX A

WATER-QUALITY TABLES

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Well 71	Well 72	Well 73	Ground Water	A5
Well 74	Well 75	Well 76	Ground Water	A6
Well 79	Well 57	Well 60	Ground Water	A7
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MW1A	MW2A		Ground Water	A9
NSL8SA	NSL9S	NSL10S	Ground Water	A10
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SBP65	SBP77		Ground Water	A15
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ECC3C	ECC4C	ECC5A	Ground Water	A18
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S32	S33		Surface Water	A49
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S9,SW9	S10,SW10	S11,SW11	Surface Water	A53
SW12	SW14		Surface Water	A54
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SW30			Surface Water	A56
SW31	SW32		Surface Water	A57
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Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	MW1 <u>Ground Water</u>	MW1C <u>Ground Water</u>	MW2 <u>Ground Water</u>
<u>Inorganics/Indicators</u> (mg/L)			
sp. conductance (umho/cm)	1340-2200(6)	2200-4500(6)	439-650(9)
total dissolved solids (TDS)	680-2400(23)	1400-2076(3)	239-400(22)
chloride	13.0-928(25)	41-900(6)	4-14(26)
chemical oxygen demand (COD)	ND-240(21)	180	ND-137(19)
total organic carbon (TOC)	14.3-186(14)	53-95(4)	2.6-45.35(15)
sodium	52-440(9)	203-400(6)	32-38(13)
nickel	0.01-0.12(9)	0.03	ND(7)
iron	0.250-15(20)	6.6-38.2(5)	0.07-2.9(24)
cyanide	ND(3)	ND-0.06(2)	ND(5)
hardness	400-872(17)	648-748(2)	220-263(19)
mercury	ND-0.0012(16)	ND-0.0001(2)	ND-0.004(19)
lead	ND-0.1(18)	ND(2)	ND-0.01(21)
<u>Volatile Organics</u> (ug/L)			
acetone	ND-100J(4)	ND	ND-9500BJ(5)
benzene	ND-560(8)	ND-15(3)	ND(4)
2-butanone	ND-2600(5)	ND-1200(2)	ND-75-4800BJ(3)
chloroethane	ND-24-100J(6)	700	ND(3)
chloroform	ND(5)	ND	ND(3)
dichlorodifluoromethane	NA	ND	ND(2)
1,1-dichloroethane	ND-190(8)	ND-150(3)	ND(4)
1,2-dichloroethane	ND-3.2(6)	ND	ND(4)
1,1-dichloroethene	ND-10(6)	ND(2)	ND(4)
1,2-dichloroethene	ND-580(8)	ND-190(3)	ND(4)
cis-1,3-dichloropropene	ND-73(6)	ND	ND(2)
trans-1,3-dichloropropene	ND-20(6)	ND(2)	ND(3)
ethylbenzene	ND-13(4)	ND	ND(3)
methylene chloride	ND-150(8)	ND(2)	ND-8.6(6)
4-methyl-2-pentanone	ND(4)	ND	ND-220J(2)
tetrachloroethene	ND-3.1(5)	ND	ND(4)
toluene	ND-36(6)	ND-9.2(3)	ND(4)
1,1,1-trichloroethane	ND-550(7)	ND-4.4(4)	ND(4)
trichlorofluoromethane	ND(5)	ND	ND(2)
trichloroethene	ND-1100(8)	1.2-4.4(4)	ND-1.0(4)
vinyl chloride	ND-100JB(6)	ND	ND(3)
xylene	ND(5)	ND(2)	ND(3)
<u>Base Neutral/Acid</u>			
<u>Extractable Organics</u> (ug/L)			
bis(2-ethylhexyl)phthalate	ND(2)	ND(2)	ND-10JB(4)
diethylphthalate	NA	ND(2)	ND-10J(3)
isophorone	NA	ND(2)	ND(2)
2-methylnaphthalene	NA	ND	ND
naphthalene	ND	ND(2)	ND(2)
phenol	ND-770(21)	ND-17(6)	ND-60(22)
pyrene	ND	ND(2)	BD(3)

ND - not detected

NA - not analyzed or not reported or not reported

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Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	MW3	MW4	MW4A
Type:	<u>Ground Water</u>	<u>Ground Water</u>	<u>Ground Water</u>
<u>Inorganics/Indicators</u> (mg/L)			
sp. conductance (umho/cm)	403-600(7)	NA	420-600(6)
total dissolved solids (TDS)	284-385(16)	315	350-420(5)
chloride	3-10(20)	4.0	5-9(8)
chemical oxygen demand (COD)	ND-186(14)	61.1	44-49(2)
total organic carbon (TOC)	24-58.5(12)	NA	11.9-68(8)
sodium	34.8-40(9)	NA	56-83(6)
nickel	ND(7)	ND	ND(4)
iron	ND-4.88(17)	0.19	ND-1.9(9)
cyanide	ND(5)	ND	ND(5)
hardness	200-300(13)	251	121-133(2)
mercury	ND-0.0016(15)	NA	ND(6)
lead	ND-0.06(17)	1.87	ND-0.05(7)
<u>Volatile Organics</u> (ug/L)			
acetone	ND-10J(4)	NA	ND-10JB(4)
benzene	ND(4)	NA	ND(3)
2-butanone	ND(2)	NA	ND(2)
chloroethane	ND(3)	NA	ND(2)
chloroform	ND(3)	NA	ND(3)
dichlorodifluoromethane	ND(2)	NA	ND
1,1-dichloroethane	ND(4)	NA	ND(3)
1,2-dichloroethane	ND(4)	NA	ND(3)
1,1-dichloroethene	ND(4)	NA	ND(3)
1,2-dichloroethene	ND(4)	NA	ND(3)
cis-1,3-dichloropropene	ND(2)	NA	ND(2)
trans-1,3-dichloropropene	ND(3)	NA	ND(3)
ethylbenzene	ND(3)	NA	ND(3)
methylene chloride	ND-6.1(6)	NA	ND-75(4)
4-methyl-2-pentanone	ND	NA	ND
tetrachloroethene	ND(4)	NA	ND(3)
toluene	ND(4)	NA	ND(3)
1,1,1-trichloroethane	ND(4)	NA	ND(3)
trichlorofluoromethane	ND(2)	NA	ND(2)
trichloroethene	ND(4)	NA	ND-5(4)
vinyl chloride	ND(3)	NA	ND(2)
xylene	ND(3)	NA	ND(2)
<u>Base Neutral/Acid Extractable Organics</u> (ug/L)			
bis(2-ethylhexyl)phthalate	ND(3)	NA	ND(2)
diethylphthalate	ND(2)	NA	ND(2)
isophorone	ND(2)	NA	ND-13(2)
2-methylnaphthalene	ND	NA	ND
naphthalene	ND(2)	NA	ND(2)
phenol	ND-45(15)	0.012	ND-6(9)
pyrene	ND(2)	NA	ND(2)

ND - not detected

NA - not analyzed or not reported

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Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	MW5 Ground Water	MW6 Ground Water	MW7 Ground Water
<u>Inorganics/Indicators</u> (mg/L)			
sp. conductance (umho/cm)	460-850(8)	490-700(7)	530-700(9)
total dissolved solids (TDS)	150-935(16)	204-440(17)	283-573(23)
chloride	1.2-15(21)	1-12(12)	1-21(28)
chemical oxygen demand (COD)	ND-79.2(14)	ND-40.7(14)	ND-170(19)
total organic carbon (TOC)	2-46.15(13)	<1-79.06(12)	<1-60.16(14)
sodium	6.54-47(10)	19-44(9)	3-18(13)
nickel	ND(7)	ND(7)	ND(7)
iron	ND-4.5(18)	0.02-3.2(18)	ND-4.1(25)
cyanide	ND(6)	ND(5)	ND(5)
hardness	26-488(13)	163-367(13)	272-356(19)
mercury	ND-0.0028(15)	ND-0.0038(15)	ND-0.043(19)
lead	ND-0.14(18)	ND-0.05(18)	ND-1.03(22)
<u>Volatile Organics</u> (ug/L)			
acetone	ND-10J(5)	ND-190000(4)	ND-24BJ(5)
benzene	ND(5)	ND(4)	ND(4)
2-butanone	ND(2)	ND(2)	10BJ(4)
chloroethane	ND(4)	ND(3)	ND(3)
chloroform	ND(4)	ND(3)	ND(3)
dichlorodifluoromethane	ND(3)	ND(2)	ND(2)
1,1-dichloroethane	ND-5J(6)	ND(4)	ND(4)
1,2-dichloroethane	ND(5)	ND(4)	ND(4)
1,1-dichloroethene	ND(5)	ND(4)	ND(4)
1,2-dichloroethene	ND-5J(6)	ND(4)	ND(4)
cis-1,3-dichloropropene	ND(4)	ND(3)	ND(3)
trans-1,3-dichloropropene	ND(4)	ND(3)	ND(3)
ethylbenzene	ND(3)	ND(2)	ND(2)
methylene chloride	ND-8.7(7)	ND-5JB(6)	ND-5J(5)
4-methyl-2-pentanone	ND	ND	ND
tetrachloroethene	ND(5)	ND(4)	ND(4)
toluene	ND(5)	ND(4)	ND(4)
1,1,1-trichloroethane	ND(5)	ND(4)	ND(4)
trichlorofluoromethane	ND(2)	ND(2)	ND(2)
trichloroethene	ND(5)	ND(4)	ND(4)
vinyl chloride	ND(4)	ND(3)	ND(3)
xylenes	ND(4)	ND(3)	ND(3)
<u>Base Neutral/Acid</u>			
<u>Extractable Organics</u> (ug/L)			
bis(2-ethylhexyl)phthalate	ND(4)	ND(3)	ND(4)
diethylphthalate	ND(3)	ND(2)	ND(3)
isophorone	ND(3)	ND(2)	ND(3)
2-methylnaphthalene	ND(2)	ND	ND(2)
naphthalene	ND(3)	ND(2)	ND(3)
phenol	ND-662(18)	ND-25(15)	ND-60(22)
pyrene	ND(3)	ND(2)	ND(3)

ND - not detected

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Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	Well 68 Ground Water	Well 69 Ground Water	Well 70 Ground Water
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	480	360	530
total dissolved solids (TDS)	450	320	480
chloride	53	6	26
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	25	21	36
nickel	NA	NA	NA
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	355	250	315
mercury	NA	NA	NA
lead	NA	NA	NA
<u>Volatile Organics (ug/L)</u>			
acetone	NA	NA	NA
benzene	ND	ND	ND
2-butanone	NA	NA	NA
chloroethane	NA	NA	NA
chloroform	123	316	221
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	NA	NA	NA
1,2-dichloroethane	ND	ND	ND
1,1-dichloroethene	ND	ND	ND
1,2-dichloroethene	NA	NA	NA
trans-1,3-dichloropropene	NA	NA	NA
ethylbenzene	NA	NA	NA
methylene chloride	ND	ND	ND
4-methyl-2-pentanone	NA	NA	NA
tetrachloroethene	NA	NA	NA
toluene	NA	NA	NA
1,1,1-trichloroethane	ND	ND	ND
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND	ND	ND
vinyl chloride	NA	NA	NA
xylenes	NA	NA	NA
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	NA	NA	NA
diethylphthalate	NA	NA	NA
isophorone	NA	NA	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	NA	NA	NA
pyrene	NA	NA	NA
ND - not detected			
NA - not analyzed or not reported			

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Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type	Well 71 Ground Water	Well 72 Ground Water	Well 73 Ground Water
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	1730	1410	1560
total dissolved solids (TDS)	1564	1280	1424
chloride	500	300	380
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	300	68	110
nickel	NA	NA	NA
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	500	844	780
mercury	NA	NA	NA
lead	NA	NA	NA
<u>Volatile Organics (ug/L)</u>			
acetone	NA	NA	NA
benzene	ND	ND	ND
2-butanone	NA	NA	NA
chloroethane	NA	NA	NA
chloroform	ND	155	6
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	NA	NA	NA
1,2-dichloroethane	ND	ND	ND
1,1-dichloroethene	ND	ND	ND
1,2-dichloroethene	NA	NA	NA
trans-1,3-dichloropropene	NA	NA	NA
ethylbenzene	NA	NA	NA
methylene chloride	ND	ND	ND
4-methyl-2-pentanone	NA	NA	NA
tetrachloroethene	NA	NA	NA
toluene	NA	NA	NA
1,1,1-trichloroethane	ND	2	3
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND	12	11
vinyl chloride	NA	NA	NA
xylene	NA	NA	NA
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	NA	NA	NA
diethylphthalate	NA	NA	NA
isophorone	NA	NA	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	NA	NA	NA
pyrene	NA	NA	NA

ND - not detected

NA - not analyzed or not reported

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Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	Well 74 <u>Ground Water</u>	Well 75 <u>Ground Water</u>	Well 76 <u>Ground Water</u>
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	*	550	440
total dissolved solids (TDS)	384	428	408
chloride	11	86	ND
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	31	16-48(2)	22
nickel	NA	NA	NA
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	268	224	244
mercury	NA	NA	NA
lead	NA	NA	NA
<u>Volatile Organics (ug/L)</u>			
acetone	NA	NA	NA
benzene	ND	ND	ND
2-butanone	NA	NA	NA
chloroethane	NA	NA	NA
chloroform	13	341	135
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	NA	NA	NA
1,2-dichloroethane	ND	ND	ND
1,1-dichloroethene	ND	ND	ND
1,2-dichloroethene	NA	NA	NA
trans-1,3-dichloropropene	NA	NA	NA
ethylbenzene	NA	NA	NA
methylene chloride	ND	129	ND
4-methyl-2-pentanone	NA	NA	NA
tetrachloroethene	NA	NA	NA
toluene	NA	NA	NA
1,1,1-trichloroethane	3	2	ND
trichlorofluoromethane	NA	NA	NA
trichloroethene	12	ND	ND
vinyl chloride	NA	NA	NA
xylene	NA	NA	NA
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	NA	NA	NA
diethylphthalate	NA	NA	NA
isophorone	NA	NA	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	NA	NA	NA
pyrene	NA	NA	NA

* - value can not be determined
 ND - not detected
NA - not analyzed or not reported

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Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	Well 79 <u>Ground Water</u>	Well 57 <u>Ground Water</u>	Well 60 <u>Ground Water</u>
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	620	670	1060
total dissolved solids (TDS)	400	400	730
chloride	9	16	62
chemical oxygen demand (COD)	50	140	680
total organic carbon (TOC)	47	23	47
sodium	NA	NA	NA
nickel	NA	NA	NA
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	NA	NA	NA
mercury	NA	NA	NA
lead	0.020	0.040	0.100
<u>Volatile Organics (ug/L)</u>			
acetone	ND	NA	NA
benzene	ND	ND	ND
2-butanone	1400	ND	130
chloroethane	ND	NA	NA
chloroform	ND	ND	ND
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	13	ND	100
1,2-dichloroethane	ND	ND	ND
1,1-dichloroethene	ND	ND	ND
1,2-dichloroethene	83	ND	64
trans-1,3-dichloropropene	ND	ND	ND
ethylbenzene	ND	ND	ND
methylene chloride	3.8	ND	ND
4-methyl-2-pentanone	ND	ND	ND
tetrachloroethene	ND	ND	ND
toluene	ND	ND	ND
1,1,1-trichloroethane	8.4	ND	ND
trichlorofluoromethane	NA	NA	NA
trichloroethene	18	ND	ND
vinyl chloride	NA	NA	NA
xlenes	ND	ND	ND
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	NA	NA	NA
butylbenzylphthalate	89	NA	NA
diethylphthalate	ND	NA	NA
isophorone	ND	NA	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	44	ND	15
pyrene	NA	NA	NA

ND - not detected

NA - not analyzed or not reported

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Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	SBP54 <u>Ground Water</u>	SBP55 <u>Ground Water</u>	SBP56 <u>Ground Water</u>
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	1820	1320-1500(2)	1300
total dissolved solids (TDS)	1608	1092-1100(2)	1216
chloride	510	310(2)	290
chemical oxygen demand (COD)	NA	64-69(2)	1071
total organic carbon (TOC)	NA	NA	NA
sodium	210	200	NA
nickel	NA	NA	NA
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	600	440	NA
mercury	NA	NA	NA
lead	0.04	ND-0.05(2)	ND
<u>Volatile Organics (ug/L)</u>			
acetone	NA	NA	NA
benzene	NA	ND	17,100
2-butanone	NA	NA	NA
chloroethane	NA	NA	NA
chloroform	NA	ND	235
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	NA	NA	NA
1,2-dichloroethane	ND	ND(2)	ND
1,1-dichloroethene	NA	ND	ND
1,2-dichloroethene	NA	NA	NA
trans-1,3-dichloropropene	NA	NA	NA
ethylbenzene	NA	NA	NA
methylene chloride	NA	ND	1990
4-methyl-2-pentanone	NA	NA	NA
tetrachloroethene	NA	NA	NA
toluene	NA	ND	390
1,1,1-trichloroethane	0.037	0.088-16(2)	2480
trichlorofluoromethane	NA	NA	NA
trichloroethene	0.022	0.059-22(2)	1810
vinyl chloride	NA	NA	NA
xylene	NA	ND	1380
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	NA	NA	NA
diethylphthalate	NA	NA	NA
isophorone	NA	ND	ND
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	NA	ND	46,700
pyrene	NA	NA	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	MW1A <u>Ground Water</u>	MW2A <u>Ground Water</u>
<u>Inorganics/Indicators (mg/L)</u>		
sp. conductance (umho/cm)	680	690
total dissolved solids (TDS)	NA	NA
chloride	5-17(4)	<3-21(4)
chemical oxygen demand (COD)	10-28(3)	<5-125(4)
total organic carbon (TOC)	NA	NA
sodium	10-18(2)	11-33(3)
nickel	ND(3)	ND(4)
iron	ND-2.6(4)	2-32(4)
cyanide	NA	ND
hardness	86-160(2)	234-236(2)
mercury	ND(2)	ND(3)
lead	ND(3)	ND(4)
<u>Volatile Organics (ug/L)</u>		
acetone	NA	ND
benzene	ND	ND(2)
2-butanone	ND	ND
chloroethane	ND	ND
chloroform	ND	NA
dichlorodifluoromethane	ND	ND(2)
1,1-dichloroethane	ND-41(2)	ND(3)
1,2-dichloroethane	ND-2.4(2)	ND(3)
1,1-dichloroethene	ND	ND(2)
1,2-dichloroethene	ND(2)	ND(3)
t-1,3-dichloropropene	ND	ND
ethylbenzene	ND	ND
methylene chloride	ND	ND(2)
4-methyl-2-pentanone	ND	ND(2)
tetrachloroethene	ND	ND(2)
toluene	ND-5.5(2)	ND(3)
1,1,1-trichloroethane	ND-1.2(2)	ND(3)
trichlorofluoromethane	ND(2)	ND(2)
trichloroethene	ND-58(2)	ND(3)
vinyl chloride	ND	ND(2)
xylene	ND	ND(2)
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>		
bis(2-ethylhexyl)phthalate	NA	ND
diethylphthalate	NA	NA
isophorone	ND	ND
2-methylnaphthalene	NA	NA
naphthalene	NA	NA
phenol	ND(2)	ND(3)
pyrene	NA	NA
ND-not detected		
NA - not analyzed or not reported		

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	NSL8SA Ground Water	NSL9S Ground Water	NSL10S Ground Water
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	527-530(2)	2630-2850(2)	1520
total dissolved solids (TDS)	390-420(2)	1751-2240(2)	1330
chloride	5-10(2)	625-694(2)	39
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	25-26.6(2)	335-360(2)	75-142(2)
nickel	ND(2)	0.087-0.1(2)	ND-0.032(2)
iron	ND-0.079(2)	ND-0.074(2)	ND-0.018(2)
cyanide	ND(2)	ND-0.0025(2)	ND(2)
hardness	NA	NA	NA
mercury	ND(2)	ND(2)	ND(2)
lead	ND(2)	ND(2)	ND(2)
<u>Volatile Organics (ug/L)</u>			
acetone	ND-11(2)	10BJ-110(2)	10JB-750B(2)
benzene	ND(2)	ND(2)	ND(2)
2-butanone	ND(2)	ND-10BJ(2)	ND(2)
chloroethane	ND-10J(2)	ND(2)	ND(2)
chloroform	ND(2)	ND(2)	ND(2)
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	ND(2)	ND(2)	ND(2)
1,2-dichloroethane	ND(2)	ND(2)	ND(2)
1,1-dichloroethene	ND(2)	ND(2)	ND(2)
1,2-dichloroethene	ND(2)	ND(2)	ND(2)
trans-1,3-dichloropropene	ND(2)	ND(2)	ND(2)
ethylbenzene			
methylene chloride	ND-7.2(2)	ND-5J(2)	6.6B-50J(2)
4-methyl-2-pentanone	ND-1.1J(2)	ND(2)	ND(2)
tetrachloroethene	ND(2)	ND(2)	ND(2)
toluene	ND(2)	ND(2)	ND-50J(2)
1,1,1-trichloroethane	ND(2)	ND(2)	ND(2)
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND(2)	ND-5J(2)	ND-5J(2)
vinyl chloride	ND(2)	ND(2)	ND(2)
xylenes	ND-2.6J(2)	ND-5J(2)	ND-50J(2)
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND(2)	ND(2)	ND-26(2)
diethylphthalate	ND(2)	ND(2)	ND(2)
isophorone	ND(2)	ND(2)	ND(2)
2-methylnaphthalene	ND-8.1J(2)	ND(2)	ND-10J(2)
naphthalene	ND(2)	ND(2)	ND-10J(2)
phenol	ND(2)	ND(2)	ND-10J(2)
pyrene	ND(2)	ND(2)	ND(2)

ND-not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	NSL11S Ground Water	NSL14 Ground Water	NSL15 Ground Water
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	602-683(2)	4720-5030(2)	484-608(2)
total dissolved solids (TDS)	445-604(2)	2925-3010(2)	202-524(2)
chloride	15-23(2)	889-966(2)	16-23.6(2)
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	28-30.4(2)	495-534(2)	8.93-9(2)
nickel	ND(2)	0.055-0.07(2)	ND(2)
iron	ND-0.06(2)	17-22.2(2)	ND-0.023(2)
cyanide	ND(2)	ND(2)	ND(2)
hardness	NA	NA	NA
mercury	ND(2)	ND(2)	ND(2)
lead	0.03(2)	ND(2)	0.014-0.028(2)
<u>Volatile Organics (ug/L)</u>			
acetone	10JB-11000B(2)	100J-510BJ(2)	ND-810(2)
benzene	ND(2)	ND(2)	ND(2)
2-butanone	ND(2)	ND-370BJ(2)	ND(2)
chloroethane	ND(2)	ND(2)	ND(2)
chloroform	ND(2)	ND(2)	ND(2)
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	ND(2)	ND(2)	ND(2)
1,2-dichloroethane	ND(2)	ND(2)	ND(2)
1,1-dichloroethene	ND(2)	ND(2)	ND(2)
1,2-dichloroethene	ND(2)	ND(2)	ND(2)
trans-1,3-dichloropropene	ND(2)	ND(2)	ND(2)
ethylbenzene	ND(2)	ND-50J(2)	ND(2)
methylene chloride	ND-15B(2)	13B-50JB(2)	ND-50JB(2)
4-methyl-2-pentanone	ND(2)	ND-110J(2)	ND(2)
tetrachloroethene	ND(2)	ND(2)	ND(2)
toluene	ND-500J(2)	ND-50J(2)	ND(2)
1,1,1-trichloroethane	ND(2)	ND(2)	ND(2)
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND-5J(2)	ND(2)	ND-32(2)
vinyl chloride	ND(2)	ND(2)	ND(2)
xylene	ND-5.1(2)	44-290(2)	ND-50J(2)
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND-10J(2)	10J-13(2)	ND-10JB(2)
diethylphthalate	ND(2)	ND(2)	ND(2)
isophorone	ND(2)	ND(2)	ND(2)
2-methylnaphthalene	ND-31(2)	ND-110(2)	ND-65(2)
naphthalene	ND-24(2)	ND-99(2)	ND-33(2)
phenol	ND-10J(2)	ND(2)	ND(2)
pyrene	ND(2)	ND(2)	ND(2)

ND-not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

**Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana**

Sample I.D.: Type:	NSL16 <u>Ground Water</u>	NSL18 <u>Ground Water</u>	NSL8DA <u>Ground Water</u>
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	616(2)	1209-1265(2)	475-601(2)
total dissolved solids (TDS)	339-466(2)	823-1000(2)	320-406(3)
chloride	21.6-26(2)	71-100(2)	7-9(3)
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	13-14.2(2)	38-41(2)	32.8-36(3)
nickel	ND(2)	ND-0.035(2)	ND(3)
iron	ND-0.0082(2)	0.797-2.23(2)	ND-0.071(3)
cyanide	ND(2)	ND-0.0039(2)	ND(3)
hardness	NA	NA	NA
mercury	ND(2)	ND(2)	ND(3)
lead	0.020-0.053(2)	ND(2)	ND-0.010R(3)
<u>Volatile Organics (ug/L)</u>			
acetone	550BJ-13000(2)	ND-14(2)	4.6J(3)
benzene	22-500J(2)	ND-5J(2)	ND(3)
2-butanone	12BJ-1000J(2)	ND(2)	ND(3)
chloroethane	ND(2)	ND(2)	ND(3)
chloroform	ND(2)	ND(2)	ND(3)
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	ND(2)	ND(2)	ND(3)
1,2-dichloroethane	ND(2)	ND(2)	ND(3)
1,1-dichloroethene	ND(2)	ND(2)	ND(3)
1,2-dichloroethene	ND(2)	ND(2)	ND(3)
trans-1,3-dichloropropene	ND(2)	ND(2)	ND(3)
ethylbenzene	ND(2)	ND-5J(2)	ND(3)
methylene chloride	ND-500JB(2)	ND-5J(2)	ND(3)
4-methyl-2-pentanone	ND(2)	ND(2)	ND(3)
tetrachloroethene	ND(2)	ND(2)	ND(3)
toluene	28-500J(2)	ND-19(2)	ND(3)
1,1,1-trichloroethane	ND(2)	ND(2)	ND(3)
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND(2)	ND(2)	ND(3)
vinyl chloride	ND(2)	ND(2)	ND(3)
xylenes	830-1100(2)	ND-62(2)	ND-1.1J(3)
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND-14(2)	ND-10J(2)	ND(3)
diethylphthalate	ND(2)	ND(2)	ND(3)
isophorone	ND(2)	ND(2)	ND(3)
2-methylnaphthalene	90-110(2)	ND-10J(2)	ND-3.8J(3)
naphthalene	28-110(2)	ND-10J(2)	ND(3)
phenol	ND-3.6J(2)	ND(2)	ND(3)
pyrene	ND(2)	ND(2)	ND(3)

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value) or R (spike sample recovery, not within control limits).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	NSL9D <u>Ground Water</u>	NSL10D <u>Ground Water</u>	NSL11D <u>Ground Water</u>
<u>Inorganic/Indicators</u> (mg/L)			
sp. conductance (umho/cm)	1175-1330(2)	462-552(2)	455-552(2)
total dissolved solids (TDS)	749-892(3)	247-416(2)	227-432(2)
chloride	141-242(3)	9-11(2)	2.3-6(2)
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	100-119(3)	69.3-72.0(2)	34-39(2)
nickel	ND-0.024(3)	ND(2)	ND(2)
iron	ND-0.077(3)	ND-0.039(2)	ND-0.037(2)
cyanide	ND-0.0036(3)	ND(2)	ND(2)
hardness	NA	NA	NA
mercury	ND(3)	ND(2)	ND(2)
lead	ND(3)	ND(2)	ND -0.016(2)
<u>Volatile Organics</u> (ug/L)			
acetone	ND-310(3)	10JB-710(2)	10JB-41B(2)
benzene	ND(3)	ND(2)	ND(2)
2-butanone	ND-11BJ(3)	ND-20J(2)	ND(2)
chloroethane	ND(3)	ND(2)	ND(2)
chloroform	ND(3)	ND(2)	ND(2)
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	ND(3)	ND(2)	ND(2)
1,2-dichloroethane	ND(3)	ND(2)	ND(2)
1,1-dichloroethene	ND(3)	ND(2)	ND(2)
1,2-dichloroethene	ND(3)	ND(2)	ND(2)
trans-1,3-dichloropropene	ND(3)	ND(2)	ND(2)
ethylbenzene	ND(3)	ND(2)	ND(2)
methylene chloride	ND-5J(3)	ND-5JB(2)	5J-7.1B(2)
4-methyl-2-pentanone	ND(3)	ND(2)	ND(2)
tetrachloroethene	ND(3)	ND(2)	ND(2)
toluene	ND(3)	ND(2)	ND(2)
1,1,1-trichloroethane	ND(3)	ND(2)	ND(2)
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND(3)	5J-10J(2)	ND-5J(2)
vinyl chloride	ND(3)	ND(2)	ND(2)
xylene	ND-5J(3)	ND(2)	ND(2)
<u>Base Neutral/Acid Extractable Organics</u> (ug/L)			
bis(2-ethylhexyl)phthalate	ND-10J(3)	ND(2)	ND(2)
diethylphthalate	ND(3)	ND(2)	ND(2)
isophorone	ND(3)	ND(2)	ND(2)
2-methylnaphthalene	ND(3)	ND-10J(2)	ND(2)
naphthalene	ND(3)	ND-10J(2)	ND(2)
phenol	ND(3)	ND-10J(2)	ND(2)
pyrene	ND(3)	ND(2)	ND(2)

ND-not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	NSL12 Ground Water	NSL13 Ground Water
<u>Inorganics/Indicators (mg/L)</u>		
sp. conductance (umho/cm)	3140-3870(2)	2030-2680(2)
total dissolved solids (TDS)	2096-2660(2)	1412-2010(2)
chloride	916-1020(2)	505-634(2)
chemical oxygen demand (COD)	NA	NA
total organic carbon (TOC)	NA	NA
sodium	384-426(2)	250-264(2)
nickel	0.084-0.11(2)	0.058-0.07(2)
iron	0.184-0.20(2)	1.67-1.9(2)
cyanide	ND-0.06(2)	ND
hardness	NA	NA
mercury	ND(2)	ND(2)
lead	ND(2)	ND(2)
<u>Volatile Organics (ug/L)</u>		
acetone	ND-19(2)	ND-10J(2)
benzene	ND-5J(2)	1.2J-5J(2)
2-butanone	ND-13(2)	ND(2)
chloroethane	33-49J(2)	20-42J(2)
chloroform	ND(2)	ND(2)
dichlorodifluoromethane	NA	NA
1,1-dichloroethane	7.3-12(2)	60-85(2)
1,2-dichloroethane	ND(2)	ND(2)
1,1-dichloroethene	ND(2)	ND-5J(2)
1,2-dichloroethene	11-20(2)	70-130(2)
trans-1,3-dichloropropene	ND(2)	ND(2)
ethylbenzene	ND(2)	1.2J-5J(2)
methylene chloride	2.1J-5JB(2)	4.5J-5JB(2)
4-methyl-2-pentanone	ND(2)	ND(2)
tetrachloroethene	ND(2)	ND(2)
toluene	ND(2)	ND(2)
1,1,1-trichloroethane	ND(2)	5J-5.7(2)
trichlorofluoromethane	NA	NA
trichloroethene	5.2-5.6(2)	8-9.2(2)
vinyl chloride	4.7J-10J(2)	32-72J
xylene	ND-6.6(2)	ND(2)
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>		
bis(2-ethylhexyl)phthalate	ND(2)	ND-10J(2)
diethylphthalate	ND(2)	ND-10J(2)
isophorone	ND(2)	ND(2)
2-methylnaphthalene	ND(2)	ND(2)
naphthalene	ND(2)	ND(2)
phenol	ND(2)	ND(2)
pyrene	ND(2)	ND(2)

ND-not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	SBP65 <u>Ground Water</u>	SBP77 <u>Ground Water</u>
<u>Inorganics/Indicators (mg/L)</u>		
sp. conductance (umho/cm)	4680-5310(2)	588
total dissolved solids (TDS)	3060-3331(2)	394
chloride	1050-1070(2)	3
chemical oxygen demand (COD)	NA	NA
total organic carbon (TOC)	NA	NA
sodium	536-575(2)	26
nickel	ND-0.047(2)	ND
iron	5.02-10.4(2)	ND
cyanide	ND(2)	ND
hardness	NA	NA
mercury	ND(2)	ND
lead	ND(2)	ND
<u>Volatile Organics (ug/L)</u>		
acetone	40B-110BJ(2)	10JB
benzene	110-120(2)	ND
2-butanone	ND-92BJ(2)	ND
chloroethane	ND-10J(2)	ND
chloroform	ND(2)	ND
dichlorodifluoromethane	NA	NA
1,1-dichloroethane	ND(2)	ND
1,2-dichloroethane	ND(2)	ND
1,1-dichloroethene	ND(2)	ND
1,2-dichloroethene	ND(2)	ND
trans-1,3-dichloropropene	ND(2)	ND
ethylbenzene	ND-11(2)	ND
methylene chloride	5J-6B(2)	5JB
4-methyl-2-pentanone	ND(2)	ND
tetrachloroethene	ND(2)	ND
toluene	ND-5J(2)	ND
1,1,1-trichloroethane	ND(2)	ND
trichlorofluoromethane	NA	NA
trichloroethene	ND(2)	ND
vinyl chloride	ND(2)	ND
xylene	ND-9.4(2)	ND
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>		
bis(2-ethylhexyl)phthalate	ND(2)	ND
diethylphthalate	ND-2.8J(2)	ND
isophorone	ND(2)	ND
2-methylnaphthalene	ND(2)	ND
naphthalene	ND(2)	ND
phenol	ND(2)	ND
pyrene	ND(2)	ND

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	ECC1A Ground-Water	ECC1C Ground-Water	ECC2A Ground-Water
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	275-390(2)	390	240-370(2)
TDS	NA	NA	NA
chloride	NA	NA	NA
COD	NA	NA	NA
TOC	NA	NA	NA
sodium	10.06	NA	15.49
nickel	ND	ND(2)	ND-0.065(3)
iron	1.39-3.3(4)	0.6-0.736(2)	2.74-3.36(3)
cyanide	ND(4)	ND(2)	ND(3)
hardness	NA	NA	NA
mercury	ND-0.0004B(4)	ND(2)	ND-0.0004(3)
lead	ND-0.0067(4)	ND(2)	ND(3)
<u>Volatile Organics (ug/L)</u>			
acetone	ND-9897B(4)	ND-9KB(2)	ND-3016B(3)
benzene	ND(4)	ND(2)	ND(3)
2-butanone	ND-9K(4)	ND(2)	ND(3)
chloroethane	ND(4)	ND(2)	ND(3)
chloroform	ND(4)	ND(2)	ND(3)
dichlorodifluoromethane	ND(4)	ND(2)	ND(3)
1,1-dichloroethane	ND(4)	ND(2)	ND(3)
1,2-dichloroethane	ND(4)	ND(2)	ND(3)
1,1-dichloroethene	ND(4)	ND(2)	ND(3)
1,2-dichloroethene	ND(4)	ND(2)	ND(3)
t-1,3-dichloropropene	ND(4)	ND(2)	ND(3)
ethylbenzene	ND(4)	ND(2)	ND(3)
methylene chloride	ND-22(2)	ND-9K(2)	ND-11B(3)
4-methyl-2-pentanone	ND(4)	ND(2)	ND(3)
tetrachloroethene	ND-9K(2)	ND(2)	ND-9K(3)
toluene	ND(4)	ND(2)	ND(3)
1,1,1-trichloroethane	ND(4)	ND(2)	ND(3)
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND-9K(4)	ND(2)	ND-9K(3)
vinyl chloride	ND(4)	ND(2)	ND(3)
o-xylene	ND(4)	ND(2)	ND-9(3)
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND-23K(4)	ND(2)	ND(3)
diethylphthalate	ND(4)	ND(2)	ND(3)
isophorone	ND(4)	ND(2)	ND(3)
2-methylnaphthalene	ND(4)	ND(2)	ND(3)
naphthalene	ND(4)	ND(2)	ND(3)
phenol	ND(4)	ND(2)	ND(3)
pyrene	ND(4)	ND(2)	ND(3)
ND-not detected			
NA-not analyzed			

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value) or K (actual value is less than the value given).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	ECC2B Ground Water	ECC2C Ground Water	ECC3A Ground Water
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	380	400	2400-2500(2)
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	NA	NA	380.7
nickel	ND	ND	0.042-0.084(4)
iron	0.92-1.14(2)	0.67-0.875(2)	0.297-10.4(4)
cyanide	ND(2)	ND(2)	ND(4)
hardness	NA	NA	NA
mercury	ND-0.0003B(2)	ND-0.0004(2)	ND-0.0003B(4)
lead	ND(2)	ND(2)	ND(4)
<u>Volatile Organics (ug/L)</u>			
acetone	ND-9KB(2)	9KB-100K(2)	ND-15030B(4)
benzene	ND(2)	ND(2)	ND-9K(4)
2-butanone	ND(2)	ND(2)	ND(4)
chloroethane	ND(2)	ND(2)	40.7-120(4)
chloroform	ND(2)	ND(2)	ND-9K(4)
dichlorodifluoromethane	ND(2)	ND(2)	ND(4)
1,1-dichloroethane	ND(2)	ND(2)	ND-96(4)
1,2-dichloroethane	ND(2)	ND(2)	ND(4)
1,1-dichloroethane	ND(2)	ND(2)	ND-10(4)
1,2-dichloroethane	ND(2)	ND(2)	ND-19(4)
trans-1,3-dichloropropene	ND(2)	ND(2)	ND-77.4(4)
ethylbenzene	ND(2)	ND(2)	ND-9K(4)
methylene chloride	ND-9K(2)	ND-9KB(2)	7-18B(4)
4-methyl-2-pentanone	ND(2)	ND(2)	ND(4)
tetrachloroethane	ND(2)	ND(2)	ND(4)
toluene	ND(2)	ND(2)	ND-9K(4)
1,1,1-trichloroethane	ND(2)	ND(2)	ND-5K(4)
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND(2)	ND(2)	ND-9K(4)
vinyl chloride	ND(2)	ND(2)	ND-85.8(4)
o-xylene	ND(2)	ND-9K(2)	ND-12(4)
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND(2)	ND(2)	ND(4)
diethylphthalate	ND(2)	ND(2)	ND-20K(4)
isophorone	ND(2)	ND(2)	ND-20K(4)
2-methylnaphthalene	ND(2)	ND(2)	ND(4)
naphthalene	ND(2)	ND(2)	ND(4)
phenol	ND(2)	ND(2)	ND(4)
pyrene	ND(2)	ND(2)	ND-30(4)

ND-not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value) or K (actual value is less than the value given).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	ECC3C Ground Water	ECC4C Ground Water	ECC5A Ground Water
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	430	390	420-460(2)
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	NA	NA	10.98-11.21(2)
nickel	ND(2)	ND-0.052(3)	ND-0.032(4)
iron	1.72-1.82(2)	0.85-1.08(3)	0.202-7.41(4)
cyanide	ND(2)	ND(3)	ND(4)
hardness	NA	NA	NA
mercury	ND(2)	ND(3)	ND(4)
lead	ND(2)	ND(3)	ND(4)
<u>Volatile Organics (ug/L)</u>			
acetone	ND-550.7B(2)	ND-9KB(3)	ND-490(4)
benzene	ND(2)	ND(3)	ND(4)
2-butanone	ND(2)	ND(3)	ND(4)
chloroethane	ND(2)	ND(3)	ND(4)
chloroform	ND(2)	ND(3)	ND(4)
dichlorodifluoromethane	ND(2)	ND(3)	ND(4)
1,1-dichloroethane	ND(2)	ND(3)	ND(4)
1,2-dichloroethane	ND(2)	ND(3)	ND(4)
1,1-dichloroethene	ND(2)	ND(3)	ND(4)
1,2-dichloroethene	ND(2)	ND(3)	ND(4)
trans-1,3-dichloropropene	ND(2)	ND(3)	ND(4)
ethylbenzene	ND(2)	ND(3)	ND(4)
methylene chloride	5K-12.4B(2)	ND-9K(3)	ND-9KB(4)
4-methyl-2-pentanone	ND(2)	ND(3)	ND(4)
tetrachloroethene	ND(2)	ND(3)	ND-9K(4)
toluene	ND(2)	ND(3)	ND(4)
1,1,1-trichloroethane	ND(2)	ND(3)	ND(4)
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND(2)	ND(3)	ND-9K(4)
vinyl chloride	ND(2)	ND(3)	ND(4)
o-xylene	ND(2)	ND(3)	ND(4)
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND(2)	ND(3)	ND(4)
diethylphthalate	ND(2)	ND(3)	ND(4)
isophorone	ND(2)	ND(3)	ND(4)
2-methylnaphthalene	ND(2)	ND(3)	ND(4)
naphthalene	ND(2)	ND(3)	ND(4)
phenol	ND(2)	ND(3)	ND(4)
pyrene	ND(2)	ND(3)	ND(4)

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value) or K (actual value is less than the value given).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	ECC6A Ground Water	ECC7A Ground Water	ECC8A Ground Water
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	910-1050(2)	320-410(2)	380
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	118	22.3	15.13
nickel	ND-0.046(2)	ND-0.176(3)	ND
iron	1.194-5.47(2)	0.073-105(3)	2.545
cyanide	ND(2)	ND(3)	ND
hardness	NA	NA	NA
mercury	ND(2)	ND-0.0002(3)	ND
lead	ND(2)	ND-0.102(3)	ND
<u>Volatile Organics (ug/L)</u>			
acetone	24B-4284B(2)	ND-38.3B(3)	52B
benzene	ND(2)	ND-4J(3)	ND
2-butanone	ND(2)	ND(3)	ND
chloroethane	ND(2)	ND-90(3)	ND
chloroform	ND-3JB(2)	ND(3)	ND
dichlorodifluoromethane	ND(2)	ND(3)	ND
1,1-dichloroethane	ND(2)	ND(3)	ND
1,2-dichloroethane	ND(2)	ND(3)	ND
1,1-dichloroethene	ND(2)	ND-9(3)	6
1,2-dichloroethene	ND(2)	ND(3)	13
trans-1,3-dichloropropene	ND(2)	ND(3)	ND
ethylbenzene	ND(2)	ND-4J(3)	ND
methylene chloride	ND-19.5B(2)	3J-16.5B(3)	64
4-methyl-2-pentanone	ND(2)	ND(3)	ND
tetrachloroethene	ND(2)	ND-9K(3)	ND
toluene	ND(2)	ND(3)	ND
1,1,1-trichloroethane	ND(2)	ND(3)	7
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND(2)	ND(3)	21
vinyl chloride	ND(2)	ND(3)	ND
o-xylene	ND(2)	ND-9K(3)	ND
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND(2)	ND(3)	ND
diethylphthalate	ND(2)	ND(3)	ND
isophorone	ND(2)	ND(3)	ND
2-methylnaphthalene	ND(2)	ND(3)	ND
naphthalene	ND(2)	ND(3)	ND
phenol	ND(2)	ND(3)	ND
pyrene	ND(2)	ND(3)	ND

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value) or K (actual value is less than the value given).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	ECC9A Ground Water	ECC10A Ground Water	ECC11A Ground Water
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	NA	380	NA
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	NA	25.52	NA
nickel	NA	ND	NA
iron	NA	0.051	NA
cyanide	NA	ND	NA
hardness	NA	NA	NA
mercury	NA	ND	NA
lead	NA	ND	NA
<u>Volatile Organics (ug/L)</u>			
acetone	41B	53B	ND
benzene	ND	ND	ND
2-butanone	ND	26B	ND
chloroethane	ND	29	ND
chloroform	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND
1,1-dichloroethane	ND	ND	ND
1,2-dichloroethane	ND	ND	ND
1,1-dichloroethene	ND	8	ND
1,2-dichloroethene	ND	3J	4000
trans-1,3-dichloropropene	ND	ND	ND
ethylbenzene	ND	ND	ND
methylene chloride	2J	4J	ND
4-methyl-2-pentanone	ND	ND	ND
tetrachloroethene	ND	ND	ND
toluene	ND	ND	ND
1,1,1-trichloroethane	ND	ND	ND
trichlorofluoromethane	NA	NA	NA
trichloroethene	3J	ND	28000
vinyl chloride	ND	ND	ND
o-xylene	ND	ND	ND
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND	ND	ND
diethylphthalate	ND	ND	ND
isophorone	ND	ND	ND
2-methylnaphthalene	ND	ND	ND
naphthalene	ND	ND	ND
phenol	ND	ND	ND
pyrene	ND	ND	ND
ND - not detected			
NA - not analyzed or not reported			

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	RW1 (ECC)	RW2 (Bankert, Sr.) NSL-ECC-RI
Type:	<u>Ground Water</u> Residential	<u>Ground Water</u> Residential
<u>Inorganics/Indicators</u> (mg/L)		
sp. conductance (umho/cm)	NA	634
total dissolved solids (TDS)	350	400-438(2)
chloride	ND	7-10(3)
chemical oxygen demand (COD)	NA	8.0
total organic carbon (TOC)	NA	NA
sodium	NA	13.0-381B(2)
nickel	NA	ND-0.007(2)
iron	0.960	0.014-3.3(4)
cyanide	ND	ND(3)
hardness	272	332-356(2)
mercury	ND	ND
lead	ND	ND
<u>Volatile Organics</u> (ug/L)		
acetone	NA	ND(2)
benzene	ND	ND(3)
2-butanone	ND	ND(3)
chloroethane	NA	ND(2)
chloroform	NA	ND(2)
dichlorodifluoromethane	ND	ND(2)
1,1-dichloroethane	ND	ND(3)
1,2-dichloroethane	NA	ND(2)
1,1-dichloroethene	NA	ND(2)
1,2-dichloroethene	ND	ND(3)
trans-1,3-dichloropropene	NA	ND(2)
ethylbenzene	NA	ND(2)
methylene chloride	NA	ND(2)
4-methyl-2-pentanone	ND	ND(2)
tetrachloroethene	ND	ND(2)
toluene	ND	ND(3)
1,1,1-trichloroethane	ND	ND(3)
trichlorofluoromethane	ND	ND
trichloroethene	ND	ND(3)
vinyl chloride	ND	ND(3)
o-xylene	ND	ND(3)*
<u>Base Neutral/Acid</u> <u>Extractable Organics</u> (ug/L)		
bis(2-ethylhexyl)phthalate	NA	ND(2)
diethylphthalate	NA	ND(2)
isophorone	NA	ND(2)
2-methylnaphthalene	NA	ND(2)
naphthalene	NA	ND(2)
phenol	NA	ND-6.1J(2)
pyrene	NA	ND(2)

ND - not detected

NA - not analyzed or not reported

* one value for total xylenes

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	RW3 (Shelburn)	RW4 (Vandergriff)
Type:	<u>Ground Water</u> Residential	<u>ECC-RI</u> <u>Ground Water</u> Residential
<u>Inorganics/Indicators (mg/L)</u>		
sp. conductance, umho/cm	NA	NA
total dissolved solids (TDS)	NA	340-350(2)
chloride	ND	ND
chemical oxygen demand (COD)	14	NA
total organic carbon (TOC)	5.2	NA
sodium	NA	260
nickel	NA	0.008B
iron	2.85	ND-1.1(3)
cyanide	NA	ND(2)
hardness	248	260-268(2)
mercury	NA	ND(2)
lead	ND	ND(2)
<u>Volatile Organics (ug/L)</u>		
acetone	NA	ND
benzene	NA	ND(2)
2-butanone	NA	ND(2)
chloroethane	NA	ND
chloroform	NA	ND
dichlorodifluoromethane	NA	ND
1,1-dichloroethane	NA	ND(2)
1,2-dichloroethane	NA	ND
1,1-dichloroethene	NA	ND
1,2-dichloroethene	NA	ND
trans-1,3-dichloropropene	NA	ND
ethylbenzene	NA	ND
methylene chloride	NA	ND
4-methyl-2-pentanone	NA	ND(2)
tetrachloroethene	NA	ND(2)
toluene	NA	ND(2)
1,1,1-trichloroethane	NA	ND(2)
trichlorofluoromethane	NA	ND
trichloroethene	NA	ND(2)
vinyl chloride	NA	ND
xylene	NA	ND(2)*
<u>Base Neutral/Acid</u> <u>Extractable Organics (ug/L)</u>		
bis(2-ethylhexyl)phthalate	NA	ND
diethylphthalate	NA	ND
isophorone	NA	ND
2-methylnaphthalene	NA	ND
naphthalene	NA	ND
phenol	ND	ND
pyrene	NA	ND

ND - not detected

NA - not analyzed or not reported

* - one value for o - xylene

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	RW5 (Holley/Holmes) ECC-RI	RW6 (Barton/Bradley)
Type:	<u>Ground Water</u> Residential	<u>Ground Water</u> Residential
<u>Inorganics/Indicators (mg/L)</u>		
sp. conductance (umho/cm)	NA	NA
total dissolved solids (TDS)	360	370
chloride	5.0	ND
chemical oxygen demand (COD)	NA	NA
total organic carbon (TOC)	NA	NA
sodium	31.3	NA
nickel	0.0193	NA
iron	1.1-1.11(2)	1.1
cyanide	ND(2)	ND
hardness	272	272
mercury	ND(2)	ND
lead	ND(2)	ND
<u>Volatile Organics (ug/L)</u>		
acetone	ND	NA
benzene	ND	ND
2-butanone	ND	ND
chloroethane	ND	NA
chloroform	ND	NA
dichlorodifluoromethane	ND	ND
1,1-dichloroethane	ND	ND
1,2-dichloroethane	ND	NA
1,1-dichloroethene	ND	NA
1,2-dichloroethene	ND	ND
trans-1,3-dichloropropene	ND	NA
ethylbenzene	ND	NA
methylene chloride	ND	NA
4-methyl-2-pentanone	ND	ND
tetrachloroethene	ND	ND
toluene	ND	ND
1,1,1-trichloroethane	ND	ND
trichlorofluoromethane	NA	ND
trichloroethene	ND	ND
vinyl chloride	ND	ND
xylene	ND	ND*
<u>Base Neutral/Acid</u>		
<u>Extractable Organics (ug/L)</u>		
bis(2-ethylhexyl)phthalate	ND	NA
diethylphthalate	ND	NA
isophorone	ND	NA
2-methylnaphthalene	ND	NA
naphthalene	ND	NA
phenol	ND	NA
pyrene	ND	NA

ND - not detected

NA - not analyzed or not reported

*value for o - xylene

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	RW7 (Roush) ECC-RI	RW8 (Jennings) ECC-RI
Type:	<u>Ground Water</u> Residential	<u>Ground Water</u> Residential
<u>Inorganics/Indicators</u> (mg/L)		
sp. conductance (umho/cm)	NA	NA
total dissolved solids (TDS)	490	NA
chloride	15-16(2)	NA
chemical oxygen demand (COD)	7	NA
total organic carbon (TOC)	ND	NA
sodium	380	15.3B-353B(2)
nickel	0.011	0.0078-.016(2)
iron	0.0092-3.05(2)	0.011-3.29(2)
cyanide	ND(2)	ND(2)
hardness	424-432(2)	NA
mercury	ND(2)	ND(3)
lead	ND(3)	ND-0.093(3)
<u>Volatile Organics</u> (ug/L)		
acetone	ND	ND(2)
benzene	ND(2)	ND(2)
2-butanone	ND(2)	ND(2)
chloroethane	ND	ND(2)
chloroform	ND	ND(2)
dichlorodifluoromethane	ND(2)	ND(2)
1,1-dichloroethane	ND(2)	ND(2)
1,2-dichloroethane	ND	ND(2)
1,1-dichloroethene	ND	ND(2)
1,2-dichloroethene	ND(2)	ND(2)
trans-1,3-dichloropropene	ND	ND(2)
ethylbenzene	ND	ND(2)
methylene chloride	ND	ND-20(3)
4-methyl-2-pentanone	ND(2)	ND(2)
tetrachloroethane	ND(2)	ND-46(3)
toluene	ND(2)	ND(2)
1,1,1-trichloroethane	ND(2)	ND(2)
trichlorofluoromethane	ND	NA
trichloroethene	ND(2)	ND(2)
vinyl chloride	ND	ND(2)
xylene	ND*	ND(2)
<u>Base Neutral/Acid</u> <u>Extractable Organics</u> (ug/L)		
bis(2-ethylhexyl)phthalate	ND	ND(2)
diethylphthalate	ND	ND(2)
isophorone	ND	ND(2)
2-methylnaphthalene	ND	ND(2)
naphthalene	ND	ND(2)
phenol	ND(2)	ND(2)
pyrene	ND	ND(2)

ND - not detected

NA - not analyzed or not reported

*o - xylene

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	RW9 (Wilson) NSL-RI	RW10 (Cox)	RW11 (G. Bankert) NSL-RI
Type:	<u>Ground Water</u> Residential	<u>Ground Water</u> Residential	<u>Ground Water</u> Residential
<u>Inorganics/Indicators</u> (mg/L)			
sp. conductance (umho/cm)	NA	NA	NA
total dissolved solids (TDS)	338	NA	400-418(3)
chloride	5-6(2)	5	6-7(3)
chemical oxygen demand (COD)	9	11	NA
total organic carbon (TOC)	2.4	3.0	NA
sodium	34.0	NA	16-17(2)
nickel	ND	NA	ND(2)
iron	0.26-0.33(2)	2.88	2.6-2.8(3)
cyanide	ND	NA	ND(3)
hardness	224	288	348
mercury	ND	NA	ND(3)
lead	ND(2)	ND	ND(3)
<u>Volatile Organics</u> (ug/L)			
acetone	ND	NA	ND(2)
benzene	ND	NA	ND(3)
2-butanone	ND	NA	ND(3)
chloroethane	ND	NA	ND(2)
chloroform	ND	NA	ND(2)
dichlorodifluoromethane	NA	NA	ND
1,1-dichloroethane	ND	NA	ND(3)
1,2-dichloroethane	ND	NA	ND(2)
1,1-dichloroethene	ND	NA	ND(2)
1,2-dichloroethene	ND	NA	ND(3)
trans-1,3-dichloropropene	ND	NA	ND(2)
ethylbenzene	ND	NA	ND(2)
methylene chloride	ND	NA	ND(2)
4-methyl-2-pentanone	ND	NA	ND(3)
tetrachloroethene	ND	NA	ND(3)
toluene	ND	NA	ND(3)
1,1,1-trichloroethane	ND	NA	ND(3)
trichlorofluoromethane	NA	NA	ND
trichloroethene	ND	NA	ND(3)
vinyl chloride	ND	NA	ND(3)
xylenes	ND	NA	ND*(3)
<u>Base Neutral/Acid</u> <u>Extractable Organics</u> (ug/L)			
bis(2-ethylhexyl)phthalate	ND	NA	ND(2)
diethylphthalate	ND	NA	ND(2)
isophorone	ND	NA	ND(2)
2-methylnaphthalene	ND	NA	ND(2)
naphthalene	ND	NA	ND(2)
phenol	ND(2)	ND	ND(2)
pyrene	ND	NA	ND(2)

ND - not detected

NA - not analyzed or not reported

* value for o-xylene

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	RW12 (Bankert, Jr.)	RW13 (Roberts)	RW14 (Boffo)
Type:	<u>Ground Water</u> Residential	<u>Ground Water</u> Residential	<u>Ground Water</u> Residential
<u>Inorganics/Indicators</u> (mg/L)			
sp. conductance (umho/cm)	NA	NA	NA
total dissolved solids (TDS)	390	NA	370
chloride	9	ND	ND
chemical oxygen demand (COD)	NA	14	NA
total organic carbon (TOC)	NA	5.5	NA
sodium	NA	NA	NA
nickel	NA	NA	NA
iron	3.9	1.03	2.3
cyanide	ND	NA	ND
hardness	300	188	258
mercury	ND	NA	ND
lead	ND	ND	ND
<u>Volatile Organics</u> (ug/L)			
acetone	NA	NA	NA
benzene	ND	NA	ND
2-butanone	ND	NA	ND
chloroethane	NA	NA	NA
chloroform	NA	NA	NA
dichlorodifluoromethane	ND	NA	ND
1,1-dichloroethane	ND	NA	ND
1,2-dichloroethane	NA	NA	NA
1,1-dichloroethene	NA	NA	NA
1,2-dichloroethene	ND	NA	ND
trans-1,3-dichloropropene	NA	NA	NA
ethylbenzene	NA	NA	NA
methylene chloride	NA	NA	NA
4-methyl-2-pentanone	ND	NA	ND
tetrachloroethene	ND	NA	ND
toluene	ND	NA	ND
1,1,1-trichloroethane	ND	NA	ND
trichlorofluoromethane	ND	NA	ND
trichloroethene	ND	NA	ND
vinyl chloride	ND	NA	ND
xylene	ND*	NA	ND*
<u>Base Neutral/Acid</u>			
<u>Extractable Organics</u> (ug/L)			
bis(2-ethylhexyl)phthalate	NA	NA	NA
diethylphthalate	NA	NA	NA
isophorone	NA	NA	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	NA	ND	NA
pyrene	NA	NA	NA

ND - not detected

NA - not analyzed or not reported

* value for o-xylene

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	RW15	RW16	Field Blank
	Russell(Cooper)	Collins(Carter)	NSL-RI
	NSL-RI	NSL-RI	NSL-RI
Type:	<u>Ground Water</u>	<u>Ground Water</u>	<u>Ground Water</u>
	Residential	Residential	Residential
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	555	717	NA
total dissolved solids (TDS)	348	542	20
chloride	3	4	ND
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	33	174	16
nickel	ND	ND	ND
iron	0.6	ND	ND
cyanide	ND	ND	ND
hardness	NA	NA	NA
mercury	ND	ND	ND
lead	ND	ND	ND
<u>Volatile Organics (ug/L)</u>			
acetone	ND	ND	ND
benzene	ND	ND	ND
2-butanone	ND	16BJ	ND
chloroethane	ND	ND	ND
chloroform	ND	ND	ND
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	ND	ND	ND
1,2-dichloroethane	ND	ND	ND
1,1-dichloroethene	ND	ND	ND
1,2-dichloroethene	ND	ND	ND
t-1,3-dichloropropene	ND	ND	ND
ethylbenzene	ND	ND	ND
methylene chloride	ND	7.5B	ND
4-methyl-2-pentanone	ND	ND	ND
tetrachloroethene	ND	ND	ND
toluene	ND	ND	ND
1,1,1-trichloroethane	ND	ND	ND
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND	ND	ND
vinyl chloride	ND	ND	ND
xlenes	ND	ND	ND
<u>Base Neutral/Acid</u>			
<u>Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND	ND	ND
diethylphthalate	ND	ND	ND
isophorone	ND	ND	ND
2-methylnaphthalene	ND	ND	ND
naphthalene	ND	ND	ND
phenol	2.1J	ND	ND
pyrene	2.1J	ND	ND

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	RW17-Bankert (Office/Residence)	Blank (ECC-RI)
Type:	<u>Ground Water</u> Residential	<u>Ground Water</u> Residential
<u>Inorganics/Indicators (mg/L)</u>		
sp. conductance (umho/cm)	NA	NA
total dissolved solids (TDS)	NA	NA
chloride	NA	NA
chemical oxygen demand (COD)	NA	NA
total organic carbon (TOC)	NA	NA
sodium	NA	143
nickel	NA	ND
iron	NA	0.039
cyanide	NA	ND
hardness	NA	NA
mercury	NA	ND
lead	NA	ND
<u>Volatile Organics (ug/L)</u>		
acetone	ND	ND
benzene	ND	ND
2-butanone	ND	ND
chloroethane	ND	ND
chloroform	ND	ND
dichlorodifluoromethane	ND	ND
1,1-dichloroethane	ND	ND
1,2-dichloroethane	ND	ND
1,1-dichloroethene	ND	ND
1,2-dichloroethene	ND	ND
t-1,3-dichloropropene	ND	ND
ethylbenzene	ND	ND
methylene chloride	ND	ND
4-methyl-2-pentanone	NA	ND
tetrachloroethene	ND	ND
toluene	ND	ND
1,1,1-trichloroethane	ND	ND
trichlorofluoromethane	ND	NA
trichloroethene	ND	ND
vinyl chloride	NA	ND
xylene	ND	ND
<u>Base Neutral/Acid</u>		
<u>Extractable Organics (ug/L)</u>		
bis(2-ethylhexyl)phthalate	NA	ND
diethylphthalate	NA	ND
isophorone	NA	ND
2-methylnaphthalene	NA	ND
naphthalene	NA	ND
phenol	NA	ND
pyrene	NA	ND

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

**Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana**

Sample I.D.:	A	SW004
	(Historical)	(ECC-RI-DATA)
	'80-'83	July 83
Type:	<u>Surface Water</u>	<u>Surface Water</u>
	F.C. at Hwy 421	F.C. at Hwy 421

Inorganics/Indicators (mg/L)

sp. conductance (umho/cm)	341-1215(3)	NA
total dissolved solids (TDS)	320	NA
chloride	22	NA
chemical oxygen demand (COD)	0.021-14(2)	NA
total organic carbon (TOC)	6.0	NA
sodium	NA	ND(2)
nickel	NA	ND(2)
iron	0.42-19(4)	1.41-1.42(2)
cyanide	ND(3)	0.000008-0.000013(2)
hardness	NA	NA
mercury	ND-0.0004(3)	0.0003-0.0004(2)
lead	0.005-0.057(4)	ND(2)

Volatile Organics (ug/L)

acetone	NA	ND(2)
benzene	ND(4)	ND(2)
2-butanone	ND(2)	ND(2)
chloroethane	ND(3)	12(2)
chloroform	ND(4)	ND(2)
dichlorodifluoromethane	ND(3)	ND(2)
1,1-dichloroethane	ND-220(5)	45(2)
1,2-dichloroethane	ND(3)	ND(2)
1,1-dichloroethene	ND-140(5)	ND(2)
1,2-dichloroethene	ND-1000(5)	330(2)
trans-1,3-dichloropropene	ND	ND(2)
ethylbenzene	ND(4)	ND(2)
methylene chloride	ND-3.2(5)	ND(2)
4-methyl-2-pentanone	ND	ND(2)
tetrachloroethene	ND-37(5)	ND(2)
toluene	ND-7(5)	ND(2)
1,1,1-trichloroethane	ND-510(5)	110-120(2)
trichlorofluoromethane	ND(3)	NA
trichloroethene	ND-670(5)	67-68(2)
vinyl chloride	ND(3)	10-11(2)
xlenes	ND	ND(2)

Base Neutral/AcidExtractable Organics (ug/L)

bis(2-ethylhexyl)phthalate	ND-830(4)	ND(2)
butylbenzylphthalate	ND-11(3)	ND(2)
diethylphthalate	ND-6(3)	ND(2)
isophorone	ND-360(3)	ND(2)
2-methylnaphthalene	NA	ND(2)
naphthalene	ND(3)	ND(2)
phenol	ND-2200(4)	ND(2)
pyrene	ND(3)	ND(2)

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	IWC	SR421
	1984-86	(DPW-IWC)
Type:	<u>Surface Water</u>	March 87
	F.C. at Hwy 421	<u>Surface Water</u>
		F.C. at Hwy 421
<u>Inorganics/Indicators (mg/L)</u>		
sp. conductance (umho/cm)	NA	NA
total dissolved solids (TDS)	NA	NA
chloride	NA	NA
chemical oxygen demand (COD)	NA	NA
total organic carbon (TOC)	NA	NA
sodium	NA	NA
nickel	NA	NA
iron	NA	NA
cyanide	NA	NA
hardness	NA	NA
mercury	NA	NA
lead	NA	NA
<u>Volatile Organics (ug/L)</u>		
acetone		9.0-14B
benzene		0.2(2)
2-butanone		ND(2)
chloroethane		ND(3)
chloroform	tr-0.4-6.6(4)	ND(2)
1,2-dichlorobenzene		1.5B(2)
dichlorodifluoromethane		NA
1,1-dichloroethane	ND-32.2(20)	1.7-3.2(3)
1,2-dichloroethane		ND-1.0(3)
1,1-dichloroethene	ND-2.2(1)	ND-0.2(3)
c-1,2-dichloroethene	NQ-1.8-191(35)	22.7-23(3)
t-1,2-dichloroethene		ND(3)
trans-1,3-dichloropropene		ND(2)
ethylbenzene		0.6(2)
methylene chloride	tr-48.0(5)	ND-1.0B(3)
4-methyl-2-pentanone		NA
tetrachloroethene	ND-1.7(13)	ND-0.1(3)
toluene		ND(2)
1,1,1-trichloroethane	1.1-176(39)	8.7-9.7(3)
trichlorofluoromethane		NA
trichloroethene	ND-44.6(29)	NQ-0.5(3)
vinyl chloride	ND-11.1(11)	ND-NQ(3)
xlenes		1.0-1.2(2)
<u>Base Neutral/Acid</u>		
<u>Extractable Organics (ug/L)</u>		
bis(2-ethylhexyl)phthalate		NA
diethylphthalate		NA
isophorone		NA
2-methylnaphthalene		NA
naphthalene		NA
phenol		NA
pyrene		NA

Blank indicates unknown if parameter was analysed

tr - trace, above detection limits, below quantification limits

NQ - detected but not quantified

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:

B
(Historical)

8/80

Type:

Surface Water
U.D.-Dwnstrm

Inorganics/Indicators (mg/L)

sp. conductance (umho/cm)	NA
total dissolved solids (TDS)	NA
chloride	NA
chemical oxygen demand (COD)	NA
total organic carbon (TOC)	NA
sodium	NA
nickel	NA
iron	NA
cyanide	NA
hardness	NA
mercury	NA
lead	0.08
chromium	0.06

Volatile Organics (ug/L)

acetone	NA
benzene	NA
2-butanone	NA
chloroethane	NA
chloroform	NA
dichlorodifluoromethane	NA
1,1-dichloroethane	NA
1,2-dichloroethane	NA
1,1-dichloroethene	NA
1,2-dichloroethene	NA
trans-1,3-dichloropropene	NA
ethylbenzene	NA
methylene chloride	NA
4-methyl-2-pentanone	NA
tetrachloroethene	NA
toluene	NA
1,1,1-trichloroethane	NA
trichlorofluoromethane	NA
trichloroethene	NA
vinyl chloride	NA
xylene	NA

Base Neutral/AcidExtractable Organics (ug/L)

bis(2-ethylhexyl)phthalate	NA
diethylphthalate	NA
isophorone	NA
2-methylnaphthalene	NA
naphthalene	NA
phenol	NA
pyrene	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

**Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana**

Sample I.D.:	C (Historical) '80-'81	D (Historical) 10/81	E (Historical) '79-'81
Type:	<u>Surface Water</u> U.D.-Dwnstrm	<u>Surface Water</u> U.D.-Dwnstrm	<u>Surface Water</u> U.D.-Dwnstrm
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	NA	NA	NA
total dissolved solids (TDS)	390	NA	NA
chloride	33	NA	NA
chemical oxygen demand (COD)	0.004-1500(3)	NA	0.004-46(2)
total organic carbon (TOC)	24.4	NA	NA
sodium	NA	NA	NA
nickel	0.01	ND	ND-0.02(3)
iron	1.9	NA	NA
cyanide	NA	NA	NA
hardness	NA	NA	NA
mercury	NA	NA	ND(2)
lead	0.01-0.02(2)	NA	0.01-0.02(4)
chromium	0.16	NA	ND(2)
<u>Volatile Organics (ug/L)</u>			
acetone	NA	NA	NA
benzene	ND(2)	ND	NA
2-butanone	270	ND-1900(2)	ND-210(2)
chloroethane	NA	NA	NA
chloroform	ND(2)	ND-11.5(2)	ND
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	6.4-26(3)	5.2-6(2)	ND-1.2(2)
1,2-dichloroethane	ND(2)	ND	NA
1,1-dichloroethene	ND(2)	ND(2)	ND(2)
1,2-dichloroethene	ND(2)	ND(2)	ND-45(2)
trans-1,3-dichloropropene	ND(2)	ND	NA
ethylbenzene	ND(2)	ND	NA
methylene chloride	3.7-18(3)	4.6-350(2)	3.5-<10(2)
4-methyl-2-pentanone	ND(2)	ND	NA
tetrachloroethene	ND-2(2)	ND-1.8(2)	ND(2)
toluene	ND-5(2)	ND(2)	ND(2)
1,1,1-trichloroethane	4.7-30(3)	4.7-570(2)	ND(2)
trichlorofluoromethane	NA	NA	NA
trichloroethene	3.8-33(3)	3.8-10(2)	1-122(2)
vinyl chloride	NA	NA	NA
xylene	ND(2)	ND	NA
<u>Base Neutral/Acid</u>			
<u>Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND	ND	ND(2)
diethylphthalate	NA	ND	ND
isophorone	NA	NA	ND
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	ND-9800(2)	ND	ND-2000(4)
pyrene	NA	NA	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	F (Historical) 8/79	G (Historical) 4/80	H (Historical) 4/80
Type:	<u>Surface Water</u> U.D.-Dwnstrm	<u>Surface Water</u> U.D.-Dwnstrm	<u>Surface Water</u>
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	NA	NA	NA
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	40	1600	17
total organic carbon (TOC)	NA	NA	NA
sodium	NA	NA	NA
nickel	ND	0.01	ND
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	NA	NA	NA
mercury	NA	NA	NA
lead	ND	ND	ND
chromium	NA	ND-0.61 (2)	ND
<u>Volatile Organics (ug/L)</u>			
acetone	NA	NA	NA
benzene	NA	NA	NA
2-butanone	NA	NA	NA
chloroethane	NA	NA	NA
chloroform	NA	NA	NA
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	NA	NA	NA
1,2-dichloroethane	NA	NA	NA
1,1-dichloroethene	NA	NA	NA
1,2-dichloroethene	NA	NA	NA
trans-1,3-dichloropropene	NA	NA	NA
ethylbenzene	NA	NA	NA
methylene chloride	NA	NA	NA
4-methyl-2-pentanone	NA	NA	NA
tetrachloroethene	NA	NA	NA
toluene	NA	NA	NA
1,1,1-trichloroethane	NA	NA	NA
trichlorofluoromethane	NA	NA	NA
trichloroethene	NA	NA	NA
vinyl chloride	NA	NA	NA
xylene	NA	NA	NA
<u>Base Neutral/Acid</u>			
<u>Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	NA	NA	NA
diethylphthalate	NA	NA	NA
isophorone	NA	NA	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	NA	1500	ND
pyrene	NA	NA	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	J	K	L
	(Historical)	(Historical)	(Historical)
	4/80	4/80	8/80
Type:	<u>Surface Water</u>	<u>Surface Water</u>	<u>Surface Water</u>
	U.D.-Upstrm	U.D.-Upstrm	F.C.-Upstrm
<u>Inorganics/Indicators</u>			
sp. conductance (umho/cm)	NA	NA	NA
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	NA	NA	NA
nickel	NA	NA	NA
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	NA	NA	NA
mercury	NA	NA	NA
lead	NA	NA	0.03
<u>Volatile Organics (ug/L)</u>			
acetone	NA	NA	NA
benzene	NA	NA	NA
2-butanone	ND	ND	NA
chloroethane	NA	NA	NA
chloroform	ND	ND	NA
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	ND	ND	NA
1,2-dichloroethane	NA	NA	NA
1,1-dichloroethane	ND	ND	NA
1,2-dichloroethane	ND	ND	NA
trans-1,3-dichloropropene	NA	NA	NA
ethylbenzene	NA	NA	NA
methylene chloride	ND	ND	NA
4-methyl-2-pentanone	NA	NA	NA
tetrachloroethene	ND	ND	NA
toluene	ND	ND	NA
1,1,1-trichloroethane	ND	ND	NA
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND	ND	NA
vinyl chloride	NA	NA	NA
xylene	NA	NA	NA
<u>Base Neutral/Acid</u>			
<u>Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND	ND	NA
diethylphthalate	ND	ND	NA
isophorone	ND	ND	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	ND	ND	NA
pyrene	NA	NA	NA
ND - not detected			
NA - not analyzed or not reported			

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:

M
(Historical)
8/80

Type:

Surface Water
E.C. - Upstrm

Inorganics/Indicators

sp. conductance (umho/cm)	NA
total dissolved solids (TDS)	NA
chloride	NA
chemical oxygen demand (COD)	NA
total organic carbon (TOC)	NA
sodium	NA
nickel	NA
Iron	NA
cyanide	NA
hardness	NA
mercury	NA
lead	0.02

Volatile Organics (ug/L)

acetone	NA
benzene	NA
2-butanone	NA
chloroethane	NA
chloroform	NA
dichlorodifluoromethane	NA
1,1-dichloroethane	NA
1,2-dichloroethane	NA
1,1-dichloroethene	NA
1,2-dichloroethene	NA
trans-1,3-dichloropropene	NA
ethylbenzene	NA
methylene chloride	NA
4-methyl-2-pentanone	NA
tetrachloroethene	NA
toluene	NA
1,1,1-trichloroethane	NA
trichlorofluoromethane	NA
trichloroethene	NA
vinyl chloride	NA
xylene	NA

Base Neutral/AcidExtractable Organics (ug/L)

bis(2-ethylhexyl)phthalate	NA
diethylphthalate	NA
isophorone	NA
2-methylnaphthalene	NA
naphthalene	NA
phenol	NA
pyrene	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	N (Historical) 3/81	SW002 (ECC-RI-Data) 7/83	SW002 (NSL-RI-Data) '84-'85
Type:	<u>Surface Water</u> U.D. at Taylor Rd.	<u>Surface Water</u> U.D. at Taylor Rd.	<u>Surface Water</u> U.D. at Taylor Rd.
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	NA	NA	NA
total dissolved solids (TDS)	NA	NA	272
chloride	NA	NA	22
chemical oxygen demand (COD)	0.0006	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	NA	ND	8.0
nickel	NA	ND	ND
iron	NA	4.46	0.19
cyanide	NA	0.000013	ND
hardness	NA	NA	NA
mercury	NA	ND	ND
lead	0.01	ND	ND
<u>Volatile Organics (ug/L)</u>			
acetone	NA	ND	ND
benzene	ND	ND	ND
2-butanone	ND(2)	ND	ND
chloroethane	NA	ND	ND
chloroform	ND	ND	ND
dichlorodifluoromethane	NA	ND	NA
1,1-dichloroethane	ND(2)	ND	ND
1,2-dichloroethane	ND	ND	ND
1,1-dichloroethene	ND(2)	ND	ND
1,2-dichloroethene	ND(2)	ND	ND
trans-1,3-dichloropropene	ND	ND	ND
ethylbenzene	ND	ND	ND
methylene chloride	1.3-2.1(2)	ND	9.7
4-methyl-2-pentanone	ND	ND	ND
tetrachloroethene	ND(2)	ND	ND
toluene	ND(2)	ND	ND
1,1,1-trichloroethane	ND(2)	ND	ND
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND(2)	ND	ND
vinyl chloride	NA	ND	ND
xylene	ND	ND	ND
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND	ND	ND
diethylphthalate	NA	ND	ND
isophorone	NA	ND	ND
2-methylnaphthalene	NA	ND	ND
naphthalene	NA	ND	ND
phenol	ND	ND	ND
pyrene	NA	ND	ND

ND - not detectedND

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle ND number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	P (Historical) '80 - '82	SW012 (NSL-RI-Data) '84 - '85
Type:	<u>Surface Water</u> F.C. at Rte 32	<u>Surface Water</u> F.C. at Rte 32
<u>Inorganics/Indicators</u>		
sp. conductance (umho/cm)	647	557
total dissolved solids (TDS)	330	410
chloride	22	15
chemical oxygen demand (COD)	8-11(2)	NA
total organic carbon (TOC)	5.7	NA
sodium	NA	ND
nickel	NA	ND
Iron	0.53-0.8(2)	2.76
cyanide	ND	ND
hardness	NA	NA
mercury	0.0004	ND
lead	0.006-<0.01(2)	ND

Volatile Organics (ug/L)

acetone	NA	ND
benzene	ND	ND
2-butanone	ND	ND
chloroethane	ND	ND
chloroform	ND	ND
dichlorodifluoromethane	ND	NA
1,1-dichloroethane	ND(2)	ND
1,2-dichloroethane	ND	ND
1,1-dichloroethene	ND(2)	ND
1,2-dichloroethene	ND(2)	ND
trans-1,3-dichloropropene	NA	ND
ethylbenzene	ND	ND
methylene chloride	ND(2)	ND
4-methyl-2-pentanone	NA	ND
tetrachloroethene	ND-5(2)	ND
toluene	ND-3(2)	ND
1,1,1-trichloroethane	ND(2)	ND
trichlorofluoromethane	ND	NA
trichloroethene	ND(2)	ND
vinyl chloride	ND	ND
xylene	NA	ND

Base Neutral/Acid

Extractable Organics (ug/

bis(2-ethylhexyl)phthalate	ND(2)	ND
diethylphthalate	ND	ND
isophorone	ND	ND
2-methylnaphthalene	NA	ND
naphthalene	ND	ND
phenol	ND(2)	ND
pyrene	ND	ND

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D: SR32
(DPW-IWC)
3/87
Type: Surface Water
F.C. at Rte.32

Inorganics/Indicators (mg/L)

sp. conductance (umho/cm)	NA
total dissolved solids (TDS)	NA
chloride	NA
chemical oxygen demand (COD)	NA
total organic carbon (TOC)	NA
sodium	NA
nickel	NA
iron	NA
cyanide	NA
hardness	NA
mercury	NA
lead	NA

Volatile Organics (ug/L)

acetone	5.0B
benzene	ND
2-butanone	ND(2)
chloroethane	ND(2)
chloroform	ND
dichlorodifluoromethane	NA
1,1-dichloroethane	ND(2)
1,2-dichloroethane	ND(2)
1,1-dichloroethene	ND(2)
c-1,2-dichloroethene	ND(2)
t-1,2-dichloroethene	ND(2)
trans-1,3-dichloropropene	ND
ethylbenzene	0.2
methylene chloride	NND(2)
4-methyl-2-pentanone	NA
tetrachloroethene	ND(2)
toluene	ND
1,1,1-trichloroethane	ND(2)
trichlorofluoromethane	NA
trichloroethene	ND(2)
vinyl chloride	ND(2)
xylene	0.2

Base Neutral/AcidExtractable Organics (ug/L)

bis(2-ethylhexyl)phthalate	NA
diethylphthalate	NA
isophorone	NA
2-methylnaphthalene	NA
naphthalene	NA
phenol	NA
pyrene	NA

ND - not detected

NA - not analyzed or not reported

NQ - detected but not quantified

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	Q	R	S
	(Historical)	(Historical)	(Historical)
	3/81	3/81	1982-83
Type:	<u>Surface Water</u>	<u>Surface Water</u>	<u>Surface Water</u> E.C.-Dwnstrm
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	NA	NA	410-630(3)
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	0.017	0.005	NA
total organic carbon (TOC)	NA	NA	NA
sodium	NA	NA	NA
nickel	NA	NA	NA
iron	NA	ND	0.34-3.7(3)
cyanide	NA	NA	ND(3)
hardness	NA	NA	NA
mercury	NA	NA	ND-0.0001(3)
lead	0.25	0.02	0.003-0.013(3)
<u>Volatile Organics (ug/L)</u>			
acetone	NA	NA	NA
benzene	NA	ND	ND(4)
2-butanone	ND	ND	ND
chloroethane	NA	NA	ND(3)
chloroform	ND	NA	ND(4)
dichlorodifluoromethane	NA	NA	ND(2)
1,1-dichloroethane	ND	ND	ND(4)
1,2-dichloroethane	NA	NA	ND(4)
1,1-dichloroethene	ND	ND	ND(4)
1,2-dichloroethene	ND	ND	ND(4)
trans-1,3-dichloropropene	NA	NA	ND
ethylbenzene	NA	NA	ND(4)
methylene chloride	ND	ND	ND-2.6(4)
4-methyl-2-pentanone	NA	NA	ND
tetrachloroethene	2	1.2	ND(4)
toluene	ND	ND	ND(3)
1,1,1-trichloroethane	5.6	9.1	ND(3)
trichlorofluoromethane	NA	NA	ND(2)
trichloroethene	ND	ND	ND(3)
vinyl chloride	NA	NA	ND(2)
xylenes	NA	NA	ND
<u>Base Neutral/Acid</u>			
<u>Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND	ND	ND-760(3)
diethylphthalate	NA	NA	ND(3)
isophorone	NA	NA	ND(3)
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	ND(3)
phenol	ND	ND	ND(3)
pyrene	NA	NA	ND(3)

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	ISBH-4-80	ISBH-10-82
Type:	<u>Surface Water</u>	<u>Surface Water</u>
	F.C. - Upstrm	F.C. - Old Channel

Inorganics/Indicators (mg/L)

sp. conductance (umho/cm)	NA	NA
total dissolved solids (TDS)	310	1650
chloride	21	460
chemical oxygen demand (COD)	11	220
total organic carbon (TOC)	5.3	NA
sodium	NA	NA
nickel	NA	NA
iron	0.9	NA
cyanide	NA	NA
hardness	NA	NA
mercury	NA	NA
lead	NA	NA

Volatile Organics (ug/L)

acetone	NA	NA
benzene	NA	NA
2-butanone	NA	NA
chloroethane	NA	NA
chloroform	NA	NA
dichlorodifluoromethane	NA	NA
1,1-dichloroethane	NA	NA
1,2-dichloroethane	NA	NA
1,1-dichloroethene	NA	NA
1,2-dichloroethene	NA	NA
trans-1,3-dichloropropene	NA	NA
ethylbenzene	NA	NA
methylene chloride	NA	NA
4-methyl-2-pentanone	NA	NA
tetrachloroethene	NA	NA
toluene	NA	NA
1,1,1-trichloroethane	NA	NA
trichlorofluoromethane	NA	NA
trichloroethene	NA	NA
vinyl chloride	NA	NA
xylene	NA	NA

Base Neutral/AcidExtractable Organics (ug/L)

bis(2-ethylhexyl)phthalate	NA	NA
diethylphthalate	NA	NA
isophorone	NA	NA
2-methylnaphthalene	NA	NA
naphthalene	NA	NA
phenol	NA	NA
pyrene	NA	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	SW001 (NSL-RI-DATA) '84-'85	SW003 (NSL-RI-DATA) '84-'85
Type:	<u>Surface Water</u> Location Uncertain	<u>Surface Water</u> F.C.-E. of NSL
<u>Inorganics/Indicators</u> (mg/L)		
sp. conductance (umho/cm)	537	590
total dissolved solids (TDS)	308-350(2)	356-388(2)
chloride	12-16(2)	15-28(2)
chemical oxygen demand (COD)	NA	NA
total organic carbon (TOC)	NA	NA
sodium	ND(2)	ND-7(2)
nickel	ND(2)	ND(2)
iron	0.15-1.8(2)	0.5-0.62(2)
cyanide	ND(2)	ND(2)
hardness	NA	NA
mercury	ND(2)	ND-0.0005(2)
lead	ND(2)	ND(2)
<u>Volatile Organics</u> (ug/L)		
acetone	ND-10J,B(2)	ND-10J,B(2)
benzene	ND(2)	ND(2)
2-butanone	ND-10J,B(2)	ND-10J,B(2)
chloroethane	ND(2)	ND(2)
chloroform	ND(2)	ND(2)
dichlorodifluoromethane	NA	NA
1,1-dichloroethane	ND(2)	ND(2)
1,2-dichloroethane	ND(2)	ND(2)
1,1-dichloroethene	ND(2)	ND(2)
1,2-dichloroethene	ND(2)	ND(2)
trans-1,3-dichloropropene	ND(2)	ND(2)
ethylbenzene	ND(2)	ND(2)
methylene chloride	5J,B-6(2)	5J,B-6.2(2)
4-methyl-2-pentanone	ND(2)	ND(2)
tetrachloroethene	ND(2)	ND(2)
toluene	ND(2)	ND(2)
1,1,1-trichloroethane	ND(2)	ND(2)
trichlorofluoromethane	NA	NA
trichloroethene	ND(2)	ND(2)
vinyl chloride	ND(2)	ND(2)
xylene	ND(2)	ND(2)
<u>Base Neutral/Acid</u>		
<u>Extractable Organics</u> (ug/L)		
bis(2-ethylhexyl)phthalate	ND-12.7(2)	ND-10J(2)
diethylphthalate	ND(2)	ND(2)
isophorone	ND(2)	ND(2)
2-methylnaphthalene	ND(2)	ND(2)
naphthalene	ND(2)	ND(2)
phenol	ND-10J(2)	ND-10J(2)
pyrene	ND(2)	ND(2)

ND - not detected

NA - not analyzed or not reported

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Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	SW004	SW005	SW006
	(NSL-RI-Data)	(NSL-RI-Data)	(NSL-RI-Data)
	'84-'85	'84-'85	'84-'85
Type:	<u>Surface Water</u>	<u>Surface Water</u>	<u>Surface Water</u>
	F.C.-S. of NSL	F.C.-S. of NSL	F.C.-S. of NSL

Inorganics/Indicators (mg/L)

sp. conductance (umho/cm)	NA	593	576
total dissolved solids (TDS)	852	402-426(2)	308-442(2)
chloride	36	14-24(2)	15-26(2)
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	14.2	ND	6
nickel	ND	ND	ND
iron	1.84	0.25-0.4(2)	0.27-0.7(2)
cyanide	0.02	0.02-0.03(2)	0.01-0.02(2)
hardness	NA	NA	NA
mercury	0.0002	ND-0.0003(2)	ND
lead	ND	ND	ND

Volatile Organics (ug/L)

acetone	ND	ND-16B(2)	10J, B-25(2)
benzene	ND	ND(2)	ND(2)
2-butanone	ND	ND-10J, B(2)	ND-10J, B(2)
chloroethane	ND	ND(2)	ND(2)
chloroform	ND	ND(2)	ND(2)
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	ND	ND(2)	ND(2)
1,2-dichloroethane	ND	ND(2)	ND(2)
1,1-dichloroethene	ND	ND(2)	ND(2)
1,2-dichloroethene	ND	ND(2)	ND(2)
trans-1,3-dichloropropene	ND	ND(2)	ND(2)
ethylbenzene	ND	ND(2)	ND(2)
methylene chloride	9	5J, B-6.3(2)	5J, B-9.4(2)
4-methyl-2-pentanone	ND	ND(2)	ND(2)
tetrachloroethene	ND	ND(2)	ND(2)
toluene	ND	ND(2)	ND(2)
1,1,1-trichloroethane	ND	ND(2)	ND(2)
trichlorofluoromethane	ND	ND(2)	ND(2)
trichloroethene	ND	ND(2)	ND(2)
vinyl chloride	ND	ND(2)	ND(2)
xylene	ND	ND(2)	ND(2)

Base Neutral/AcidExtractable Organics (ug/L)

bis(2-ethylhexyl)phthalate	146	ND(2)	ND(2)
diethylphthalate	ND	ND(2)	ND(2)
di-n-butylphthalate	ND	ND-20J(2)	ND(2)
isophorone	ND	ND(2)	ND(2)
2-methylnaphthalene	ND	ND(2)	ND(2)
naphthalene	ND	ND(2)	ND(2)
phenol	ND	ND(2)	ND(2)
pyrene	ND	ND(2)	ND(2)

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

**Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana**

Sample I.D.:	SW008 (NSL-RI-Data) '84-'85	SW010 (NSL-RI-Data) '84-'85	SW011 (NSL-RI-Data) '84-'85
Type:	<u>Surface Water</u> F.C. Downstrm of U.D.	<u>Surface Water</u> U.D.-E. of ECC	<u>Surface Water</u> Former F.C.

Inorganics/Indicators (mg/L)

sp. conductance, umho/cm	594-616(3)	1442	596
total dissolved solids (TDS)	393-412(4)	494-870(2)	420
chloride	18-26(4)	69-125(2)	14
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	ND-9(4)	ND-18(2)	ND
nickel	ND(4)	ND(2)	ND
iron	0.27-0.7(4)	1.95-4.0(2)	0.4
cyanide	ND-0.02(4)	ND(2)	0.02
hardness	NA	NA	NA
mercury	ND-0.002(4)	ND-0.0003(2)	ND
lead	ND(4)	ND(2)	NA

Volatile Organics (ug/L)

acetone	10JB-17(5)	280-2900B(2)	10J,B
benzene	ND(5)	ND-250J(2)	ND
2-butanone	ND-10J,B(5)	190-1900B(2)	10J,B
chloroethane	ND(5)	ND(2)	ND
chloroform	ND(5)	ND(2)	ND
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	ND-5J(5)	ND(2)	ND
1,2-dichloroethane	ND(5)	ND(2)	ND
1,1-dichloroethene	ND(5)	ND(2)	ND
1,2-dichloroethene	6.3-27(5)	ND-11(2)	ND
trans-1,3-dichloropropene	ND(5)	ND(2)	ND
ethylbenzene	ND(5)	ND(2)	ND
2-hexanone	ND(5)	ND-500J(2)	ND
methylene chloride	5J,B-8.8(5)	9.7-250J,B(2)	5J,B
4-methyl-2-pentanone	ND(5)	ND-27(2)	ND
tetrachloroethene	ND(5)	ND(2)	ND
toluene	ND(5)	ND(2)	ND
1,1,1-trichloroethane	ND-5.3(5)	ND(2)	NA
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND-5J(5)	ND(2)	ND
vinyl chloride	ND-10J(5)	ND(2)	ND
xylenes	ND(5)	ND(2)	ND

Base Neutral/AcidExtractable Organics (ug/L)

benzoic acid	ND(5)	ND-300(2)	ND
bis(2-ethylhexyl)phthalate	ND-108(5)	ND(2)	ND
diethylphthalate	ND(5)	ND(2)	ND
di-n-butylphthalate	ND(5)	ND(2)	10J
isophorone	ND(5)	ND-10J(2)	ND
2-methylnaphthalene	ND(5)	ND(2)	ND
4-methylphenol	ND(5)	31-40(2)	ND
naphthalene	ND(5)	ND-36(2)	ND
phenol	ND(5)	14-38(2)	10J
pyrene	ND(5)	ND(2)	ND

ND-not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	Blank (ECC-RI) 7/83	SW007 (NSL-RI-Data) '84 - '85
Type:	<u>Surface Water</u>	<u>Surface Water</u> Blank
<u>Inorganics/Indicators</u> (mg/L)		
sp. conductance (umho/cm)	NA	6
total dissolved solids (TDS)	NA	22-26(2)
chloride	NA	ND(2)
chemical oxygen demand (COD)	NA	NA
total organic carbon (TOC)	NA	NA
sodium	ND	ND(2)
nickel	ND	ND(2)
iron	ND	0.06-0.4(2)
cyanide	ND	ND(2)
hardness	ND	NA
mercury	0.0002	ND-0.0002(2)
lead	ND	ND(2)
<u>Volatile Organics</u> (ug/L)		
acetone	ND	ND-10J, B(2)
benzene	ND	ND(2)
2-butanone	ND	ND-87B(2)
chloroethane	ND	ND(2)
chloroform	ND	ND-5J(2)
dichlorodifluoromethane	ND	NA
1,1-dichloroethane	ND	ND(2)
1,2-dichloroethane	ND	ND(2)
1,1-dichloroethene	ND	ND(2)
1,2-dichloroethene	ND	ND(2)
trans-1,3-dichloropropene	ND	ND(2)
ethylbenzene	ND	ND(2)
methylene chloride	3100	5J, B-6.7(2)
4-methyl-2-pentanone	ND	ND(2)
tetrachloroethene	ND	ND(2)
toluene	ND	ND-5J(2)
1,1,1-trichloroethane	ND	ND(2)
trichlorofluoromethane	NA	NA
trichloroethene	ND	ND(2)
vinyl chloride	ND	ND(2)
o-xylene	ND	ND(2)
<u>Base Neutral/Acid</u> <u>Extractable Organics</u> (ug/L)		
bis(2-ethylhexyl)phthalate	ND	ND-26(2)
diethylphthalate	ND	ND(2)
di-n-butylphthalate	ND	ND-15(2)
isophorone	ND	ND(2)
2-methylnaphthalene	ND	ND(2)
naphthalene	ND	ND(2)
phenol	ND	ND(2)
pyrene	ND	ND(2)

ND - not detected

NA - not analyzed or not reported

* one value for total xylenes

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	SW001	SW003
	(ECC-RI-Data)	(ECC-RI-Data)
	7/83	7/83
Type:	<u>Surface Water</u>	<u>Surface Water</u>
	F.C. at	F.C.-S.
	Rte 32	of NSL
<u>Inorganics/Indicators (mg/L)</u>		
sp. conductance (umho/cm)	NA	NA
total dissolved solids (TDS)	NA	NA
chloride	NA	NA
chemical oxygen demand (COD)	NA	NA
total organic carbon (TOC)	NA	NA
sodium	ND	ND
nickel	0.047	ND
iron	0.28	0.89
cyanide	0.000007	0.000005
hardness	NA	NA
mercury	ND	0.0002
lead	ND	ND
<u>Volatile Organics (ug/L)</u>		
acetone	ND	ND
benzene	ND	ND
2-butanone	ND	ND
chloroethane	ND	ND
chloroform	ND	ND
dichlorodifluoromethane	ND	ND
1,1-dichloroethane	ND	ND
1,2-dichloroethane	ND	ND
1,1-dichloroethene	ND	ND
1,2-dichloroethene	ND	ND
trans-1,3-dichloropropene	ND	ND
ethylbenzene	ND	ND
methylene chloride	ND	ND
4-methyl-2-pentanone	ND	ND
tetrachloroethene	ND	ND
toluene	ND	ND
1,1,1-trichloroethane	ND	ND
trichlorofluoromethane	NA	NA
trichloroethene	ND	ND
vinyl chloride	ND	ND
o-xylene	ND	ND
<u>Base Neutral/Acid</u>		
<u>Extractable Organics (ug/L)</u>		
bis(2-ethylhexyl)phthalate	ND	ND
diethylphthalate	ND	ND
isophorone	ND	ND
2-methylnaphthalene	ND	ND
naphthalene	ND	ND
phenol	ND	ND
pyrene	ND	ND
ND - not detected		
NA - not analyzed or not reported		

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	SW007 (ECC-RI-DATA) 12/84	SW008 (ECC-RI-DATA) 12/84	SW009 (ECC-RI-DATA) 12/84
Type:	<u>Surface Water</u> Ponded Water	<u>Surface Water</u> Ponded Water	<u>Surface Water</u> Ponded Water
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	NA	NA	NA
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	ND	ND	ND
nickel	0.021	ND	ND
iron	0.080	0.077	0.083
cyanide	ND	ND	ND
hardness	NA	NA	NA
mercury	ND	ND	ND
lead	ND	ND	ND
<u>Volatile Organics (ug/L)</u>			
acetone	1100	220	30
benzene	ND	ND	ND
2-butanone	560	150	16
chloroethane	ND	ND	ND
chloroform	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND
1,1-dichloroethane	ND	ND	ND
1,2-dichloroethane	ND	ND	ND
1,1-dichloroethene	ND	ND	ND
1,2-dichloroethene	34	.6J	ND
trans-1,3-dichloropropene	ND	ND	ND
ethylbenzene	13J	2J	2J
methylene chloride	83	86	3J
4-methyl-2-pentanone	ND	ND	ND
tetrachloroethene	29	18	5J
toluene	82	26	6
1,1,1-trichloroethane	56	42	6
trichlorofluoromethane	NA	NA	NA
trichloroethene	240	160	13
vinyl chloride	ND	ND	ND
o-xylene	47	16J	11
<u>Base Neutral/Acid Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND	ND	ND
4-chloro-3-methylphenol	30J	ND	ND
diethylphthalate	ND	ND	ND
di-n-octylphthalate	ND	ND	120
isophorone	240	87	ND
2-methylnaphthalene	ND	ND	ND
2-methylphenol	27	ND	ND
4-methylphenol	89	ND	17J
naphthalene	ND	ND	ND
phenol	92	ND	ND
pyrene	ND	ND	ND

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	FCO1 (ISBH) 2/84	FCO2 (ISBH) 2/84	FCO3 (ISBH) 2/84
Type:	<u>Surface Water</u> F.C. at Hwy.421	<u>Surface Water</u> F.C.-Upstrm	<u>Surface Water</u> F.C. at Rte. 32

Inorganics/Indicators (mg/L)

sp. conductance (umho/cm)	NA	NA	NA
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	NA	NA	NA
nickel	NA	NA	NA
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	NA	NA	NA
mercury	NA	NA	NA
lead	NA	NA	NA

Volatile Organics (ug/L)

acetone	ND	ND	ND
benzene	ND	ND	ND
2-butanone	ND	ND	ND
chloroethane	ND	ND	ND
chloroform	ND	ND	ND
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	ND	ND	ND
1,2-dichloroethane	ND	ND	ND
1,1-dichloroethene	ND	ND	ND
1,2-dichloroethene	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND
ethylbenzene	ND	ND	ND
methylene chloride	ND	6.7	ND
4-methyl-2-pentanone	ND	ND	ND
tetrachloroethene	ND	ND	ND
toluene	ND	ND	ND
1,1,1-trichloroethane	3.1	ND	ND
trichlorofluoromethane	ND	ND	ND
trichloroethene	1.9	ND	ND
vinyl chloride	NA	NA	NA
xylene	ND	ND	ND

Base Neutral/AcidExtractable Organics (ug/L)

bis(2-ethylhexyl)phthalate	NA	NA	NA
diethylphthalate	NA	NA	NA
isophorone	NA	NA	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	NA	NA	NA
pyrene	NA	NA	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	UN01 (ISBH) 2/84	UN02 (ISBH) 2/84	UN03 (ISBH) 2/84
Type:	<u>Surface Water</u> U.D.-Dwnstrm	<u>Surface Water</u> U.D. at NSL access Rd.	<u>Surface Water</u> U.D. at Taylor Rd.
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	NA	NA	NA
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	NA	NA	NA
nickel	NA	NA	NA
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	NA	NA	NA
mercury	NA	NA	NA
lead	NA	NA	NA
<u>Volatile Organics (ug/L)</u>			
acetone	ND	ND	NA
benzene	ND	ND	NA
2-butanone	150	120	NA
chloroethane	3.9	4.0	NA
chloroform	ND	ND	ND
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	3.4	3.1	ND
1,2-dichloroethane	ND	ND	ND
1,1-dichloroethene	ND	ND	ND
1,2-dichloroethene	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND
ethylbenzene	ND	ND	NA
methylene chloride	7.3	ND	ND
4-methyl-2-pentanone	ND	ND	NA
tetrachloroethene	ND	ND	ND
toluene	ND	ND	NA
1,1,1-trichloroethane	2.6	2.0	ND
trichlorofluoromethane	ND	ND	ND
trichloroethene	2.4	1.6	ND
vinyl chloride	2.1	NA	NA
xylene	ND	ND	NA
<u>Base Neutral/Acid</u>			
<u>Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	NA	NA	NA
diethylphthalate	NA	NA	NA
isophorone	NA	NA	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	NA	NA	NA
pyrene	NA	NA	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	S32 3/85	S33 3/85
Type:	<u>Surface Water</u> ECC-SE ditch	<u>Surface Water</u> ECC-W ditch
<u>Inorganics/Indicators (mg/L)</u>		
sp. conductance (umho/cm)	NA	NA
total dissolved solids (TDS)	NA	NA
chloride	NA	NA
chemical oxygen demand (COD)	NA	NA
total organic carbon (TOC)	NA	NA
sodium	NA	NA
nickel	NA	NA
iron	NA	NA
cyanide	NA	NA
hardness	NA	NA
mercury	NA	NA
lead	NA	NA
<u>Volatile Organics (ug/L)</u>		
acetone	12000	ND
benzene	ND	ND
2-butanone	ND	ND
chloroethane	ND	ND
chloroform	1700	ND
dichlorodifluoromethane	NA	NA
1,1-dichloroethane	600	ND
1,2-dichloroethane	ND	500
t-1,2-dichloroethane	8600	62
1,1-dichloroethene	ND	ND
1,2-dichloroethene	NA	NA
trans-1,3-dichloropropene	ND	ND
ethylbenzene	ND	ND
methylene chloride	12000	130
4-methyl-2-pentanone	ND	ND
tetrachloroethene	ND	ND
toluene	2300	84
1,1,1-trichloroethane	15000	110
trichlorofluoromethane	NA	NA
trichloroethene	4600	140
vinyl chloride	ND	ND
xylene	ND	ND
<u>Base Neutral/Acid</u>		
<u>Extractable Organics (ug/L)</u>		
bis(2-ethylhexyl)phthalate	NA	NA
diethylphthalate	NA	NA
isophorone	NA	NA
2-methylnaphthalene	NA	NA
naphthalene	NA	NA
phenol	NA	NA
pyrene	NA	NA

ND - not detected

NA - not analyzed or not reported

* one value for total xylenes

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	S1, SW1 (ERM, EPA) 5/87, 6/87	S2, SW2 (ERM, EPA) 5/87, 6/87	S3, SW3 (ERM, EPA) 5/87, 6/87
Type:	<u>Surface Water</u> F.C.-Dwnstrm	<u>Surface Water</u> F.C.-Dwnstrm	<u>Surface Water</u> F.C.-Dwnstrm

Inorganics/Indicators (mg/L)

sp. conductance (umho/cm)	228-592(2)	228-544(2)	239-576(4)
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	NA	NA	NA
nickel	NA	NA	NA
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	NA	NA	NA
mercury	NA	NA	NA
lead	NA	NA	NA

Volatile Organics (ug/L)

acetone	ND	ND	ND(3)
benzene	ND	ND	ND(3)
2-butanone	ND	ND	ND(3)
chloroethane	ND-<1(2)	ND-<1(2)	ND-<1(4)
chloroform	ND	ND	ND(3)
1,2-dichlorobenzene	<1-1.6(2)	<1-1.5(2)	ND-1.3J(4)
dichlorodifluoromethane	ND	ND	ND(3)
1,1-dichloroethane	1.4-1.4J(2)	ND-1.5J(2)	ND-1.6J(4)
1,2-dichloroethane	ND	ND	ND(3)
1,1-dichloroethene	<1	<1	<1(3)
t-1,2-dichloroethene	ND-<1(2)	<1-2.4(2)	ND-<1(4)
c-1,2-dichloroethene	19-35.5(2)	21-36.6(2)	6.8-23(4)
trans-1,3-dichloropropene	NA	NA	NA
ethylbenzene	ND	ND	ND(3)
methylene chloride	ND	ND	ND(3)
4-methyl-2-pentanone	ND	ND	ND(3)
tetrachloroethene	ND	ND	ND(3)
toluene	ND	ND	ND(3)
1,1,1-trichloroethane	5	5.5	5.4-6.8(3)
trichlorofluoromethane	NA	NA	NA
trichloroethene	<1-6.6(2)	<1-8.3(2)	ND-<1(4)
vinyl chloride	1.4J	1.5J	1.5J-1.6J(3)
xylenes	ND(2)	ND-1.8(2)	ND-2.3(4)

Base Neutral/AcidExtractable Organics (ug/L)

bis(2-ethylhexyl)phthalate	NA	NA	NA
diethylphthalate	NA	NA	NA
isophorone	NA	NA	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	NA	NA	NA
pyrene	NA	NA	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	S4, SW4 (ERM, EPA) 5/87, 6/87	S5, SW5 (ERM, EPA) 5/87, 6/87
Type:	<u>Surface Water</u> F.C. - Dwnstrm	<u>Surface Water</u> F.C. - Dwnstrm

Inorganics/Indicators (mg/L)

sp. conductance (umho/cm)	228-528(2)	250-1280(3)
total dissolved solids (TDS)	NA	NA
chloride	NA	NA
chemical oxygen demand (COD)	NA	NA
total organic carbon (TOC)	NA	NA
sodium	NA	NA
nickel	NA	NA
iron	NA	NA
cyanide	NA	NA
hardness	NA	NA
mercury	NA	NA
lead	NA	NA

Volatile Organics (ug/L)

acetone	ND	ND(2)
benzene	ND	ND(2)
2-butanone	ND	ND(2)
chloroethane	ND-<1(2)	ND(3)
chloroform	ND	ND(2)
1,2-dichlorobenzene	<1-2.2(2)	ND(3)
dichlorodifluoromethane	ND	ND(2)
1,1-dichloroethane	ND-1J(2)	ND(3)
1,2-dichloroethane	ND	ND(2)
1,1-dichloroethane	<1	ND(2)
t-1,2-dichloroethene	<1-2.8(2)	ND(3)
c-1,2-dichloroethene	19-38.7(2)	ND(3)
trans-1,3-dichloropropene	NA	NA
ethylbenzene	ND	ND(2)
methylene chloride	ND	ND(2)
4-methyl-2-pentanone	ND	ND(2)
tetrachloroethene	ND	ND(2)
toluene	ND	ND(2)
1,1,1-trichloroethane	4.9	ND(2)
trichlorofluoromethane	NA	NA
trichloroethene	ND-8.2(2)	ND(3)
vinyl chloride	1.6J	ND(2)
xylene	ND-2.7(2)	ND(3)

Base Neutral/AcidExtractable Organics (ug/L)

bis(2-ethylhexyl)phthalate	NA	NA
diethylphthalate	NA	NA
isophorone	NA	NA
2-methylnaphthalene	NA	NA
naphthalene	NA	NA
phenol	NA	NA
pyrene	NA	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	S6, SW6	S7, SW7	S8, SW8
	(ERM, EPA)	(ERM, EPA)	(ERM, EPA)
	5/87, 6/87	5/87, 6/87	5/87, 6/87
Type:	<u>Surface Water</u>	<u>Surface Water</u>	<u>Surface Water</u>
	U.D.-Dwnstrm	U.D.-Dwnstrm	U.D.-Dwnstrm

Inorganics/Indicators (mg/L)

sp. conductance (umho/cm)	652-967(2)	522-848(2)	522-864(2)
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	NA	NA	NA
nickel	NA	NA	NA
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	NA	NA	NA
mercury	NA	NA	NA
lead	NA	NA	NA

Volatile Organics (ug/L)

acetone	124	101	113
benzene	<1	ND	ND
2-butanone	86	73	86
chloroethane	26-68(2)	ND-2.1(2)	ND-5.8(2)
chloroform	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND
1,1-dichloroethane	10.1-27(2)	<1-1.5(2)	<1-3.1(2)
1,2-dichloroethane	<1	ND	ND
1,1-dichloroethene	ND	ND	ND
c-1,2-dichloroethene	24-24.1(2)	<1-2.6(2)	<1-3.3(2)
t-1,2-dichloroethene	ND-<1(2)	ND(2)	ND(2)
trans-1,3-dichloropropene	NA	NA	NA
ethylbenzene	ND	ND	ND
methylene chloride	ND	ND	ND
4-methyl-2-pentanone	ND	ND	ND
tetrachloroethene	ND	ND	ND
toluene	ND	ND	ND
1,1,1-trichloroethane	<1	ND	<1
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND-<1(2)	ND(2)	ND(2)
vinyl chloride	15	ND	ND
xylene	ND(2)	ND(2)	ND(2)

Base Neutral/AcidExtractable Organics (ug/L)

bis(2-ethylhexyl)phthalate	NA	NA	NA
diethylphthalate	NA	NA	NA
isophorone	NA	NA	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	NA	NA	NA
pyrene	NA	NA	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	S9, SW9 (ERM, EPA) 5/87, 6/87	S10, SW10 (ERM, EPA) 5/87, 6/87	S11, SW11 (ERM, EPA) 5/87, 6/87
Type:	<u>Surface Water</u> F.C.-Upstrm	<u>Surface Water</u> F.C.-Upstrm	<u>Surface Water</u> F.C.-Bkgrn

Inorganics/Indicators (mg/L)

sp. conductance (umho/cm)	304-576(2)	250-469(2)	315-560(2)
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	NA	NA	NA
nickel	NA	NA	NA
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	NA	NA	NA
mercury	NA	NA	NA
lead	NA	NA	NA

Volatile Organics (ug/L)

acetone	ND	ND	ND
benzene	ND	ND	ND
2-butanone	ND	ND	ND
chloroethane	ND(2)	ND(2)	ND(2)
chloroform	ND	ND	ND
dichlorodifluoromethane	ND	ND	ND
1,1-dichloroethane	ND(2)	ND(2)	ND(2)
1,2-dichloroethane	ND	ND	ND
1,1-dichloroethene	ND	ND	ND
c-1,2-dichloroethene	ND(2)	ND(2)	ND(2)
t-1,2-dichloroethene	ND(2)	ND(2)	ND(2)
trans-1,3-dichloropropene	NA	NA	NA
ethylbenzene	ND	ND	ND
methylene chloride	ND	ND	ND
4-methyl-2-pentanone	ND	ND	ND
tetrachloroethene	ND	ND	ND
toluene	ND	ND	ND
1,1,1-trichloroethane	ND	ND	ND
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND(2)	ND(2)	ND(2)
vinyl chloride	ND	ND	ND
xylene	ND(2)	ND(2)	ND(2)

Base Neutral/AcidExtractable Organics (ug/L)

bis(2-ethylhexyl)phthalate	NA	NA	NA
diethylphthalate	NA	NA	NA
isophorone	NA	NA	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	NA	NA	NA
pyrene	NA	NA	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	SW12 (EPA) 6/87	SW14 (EPA) 6/87
Type:	<u>Surface Water</u> F.C.-Dwnstrm	<u>Surface Water</u> F.C.-Bkgrn
<u>Inorganics/Indicators (mg/L)</u>		
sp. conductance (umho/cm)	560	544
total dissolved solids (TDS)	NA	NA
chloride	NA	NA
chemical oxygen demand (COD)	NA	NA
total organic carbon (TOC)	NA	NA
sodium	NA	NA
nickel	NA	NA
iron	NA	NA
cyanide	NA	NA
hardness	NA	NA
mercury	NA	NA
lead	NA	NA
<u>Volatile Organics (ug/L)</u>		
acetone	ND	ND
benzene	ND	ND
2-butanone	ND	ND
chloroethane	ND	ND
chloroform	ND	ND
dichlorodifluoromethane	ND	ND
1,1-dichloroethane	ND	ND
1,2-dichloroethane	ND	ND
1,1-dichloroethene	ND	ND
1,2-dichloroethene	ND	ND
trans-1,3-dichloropropene	NA	NA
ethylbenzene	ND	ND
methylene chloride	ND	ND
4-methyl-2-pentanone	ND	ND
tetrachloroethene	ND	ND
toluene	ND	ND
1,1,1-trichloroethane	ND	ND
trichlorofluoromethane	NA	NA
trichloroethene	ND	ND
vinyl chloride	ND	ND
xylene	ND	ND
<u>Base Neutral/Acid</u>		
<u>Extractable Organics (ug/L)</u>		
bis(2-ethylhexyl)phthalate	NA	NA
diethylphthalate	NA	NA
isophorone	NA	NA
2-methylnaphthalene	NA	NA
naphthalene	NA	NA
phenol	NA	NA
pyrene	NA	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D:	SW13 (EPA) 6/87	SW15 (EPA) 6/87	SW16 (EPA) 6/87
Type:	<u>Surface Water</u> U.D.-Dwnstrm	<u>Surface Water</u> U.D.-Upstrm of ECC	<u>Surface Water</u> U.D.-Bkgrn

Inorganics/Indicators (mg/L)

sp. conductance (umho/cm)	848(2)	880	786
total dissolved solids (TDS)	NA	NA	NA
chloride	NA	NA	NA
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	NA	NA	NA
nickel	NA	NA	NA
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	NA	NA	NA
mercury	NA	NA	NA
lead	NA	NA	NA

Volatile Organics (ug/L)

acetone	97-113(2)	110	ND
benzene	ND(2)	ND	ND
2-butanone	88-93(2)	96	ND
chloroethane	12.9-16.4(2)	ND	ND
chloroform	ND(2)	ND	ND
dichlorodifluoromethane	ND(2)	ND	ND
1,1-dichloroethane	2.2-2.5(2)	ND	ND
1,2-dichloroethane	ND(2)	ND	ND
1,1-dichloroethene	ND(2)	ND	ND
c-1,2-dichloroethene	1J-1.2J(2)	ND	ND
t-1,2-dichloroethene	ND(2)	ND	ND
trans-1,3-dichloropropene	NA	NA	NA
ethylbenzene	ND(2)	ND	ND
methylene chloride	ND(2)	ND	ND
4-methyl-2-pentanone	ND(2)	ND	ND
tetrachloroethene	ND(2)	ND	ND
toluene	ND	ND	ND
1,1,1-trichloroethane	<1(2)	ND	ND
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND	ND	ND
vinyl chloride	<1(2)	ND	ND
xylene	ND	ND	ND

Base Neutral/AcidExtractable Organics (ug/L)

bis(2-ethylhexyl)phthalate	NA	NA	NA
diethylphthalate	NA	NA	NA
isophorone	NA	NA	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	NA	NA	NA
pyrene	NA	NA	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D: SW30
(EPA)
6/87
Type: Surface Water
F.C.-Dwnstrm

Inorganics/Indicators (mg/L)

sp. conductance (umho/cm)	1280
total dissolved solids (TDS)	NA
chloride	NA
chemical oxygen demand (COD)	NA
total organic carbon (TOC)	NA
sodium	NA
nickel	NA
iron	NA
cyanide	NA
hardness	NA
mercury	NA
lead	NA

Volatile Organics (ug/L)

acetone	ND
benzene	1J
2-butanone	ND
chloroethane	189
chlorobenzene	41
1,2-dichlorobenzene	31
chloroform	ND
dichlorodifluoromethane	ND
1,1-dichloroethane	149
1,2-dichloroethane	<1
1,1-dichloroethene	7.1
c-1,2-dichloroethene	164
t-1,2-dichloroethene	12.4
trans-1,3-dichloropropene	NA
ethylbenzene	18.2
methylene chloride	ND
4-methyl-2-pentanone	ND
styrene	45
tetrachloroethene	4.1
toluene	9
1,1,1-trichloroethane	108
trichlorofluoromethane	NA
trichloroethene	16.4
vinyl chloride	59
xylene	76

Base Neutral/AcidExtractable Organics (ug/L)

bis(2-ethylhexyl)phthalate	NA
diethylphthalate	NA
isophorone	NA
2-methylnaphthalene	NA
naphthalene	NA
phenol	NA
pyrene	NA

ND - not detected

NA - not analyzed or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	SW31 (EPA) 6/87	SW32 (EPA) 6/87
Type:	<u>Surface Water</u> ECC-Sump	<u>Surface Water</u> NSL-Seep
<u>Inorganics/Indicators (mg/L)</u>		
sp. conductance (umho/cm)	560(2)	1966(3)
total dissolved solids (TDS)	NA	NA
chloride	NA	NA
chemical oxygen demand (COD)	NA	NA
total organic carbon (TOC)	NA	NA
sodium	NA	NA
nickel	NA	NA
iron	NA	NA
cyanide	NA	NA
hardness	NA	NA
mercury	NA	NA
lead	NA	NA
<u>Volatile Organics (ug/L)</u>		
acetone	420-450(2)	ND(3)
benzene	3.9-4.2(2)	ND(3)
2-butanone	820-880(2)	ND(3)
chlorobenzene	1.6J-1.8J(2)	ND(3)
chloroethane	180-200(2)	9.2-12.1(3)
chloroform	ND(2)	ND(3)
chloromethane	ND(2)	10-22(3)
1,2-dichlorobenzene	34-38(2)	ND(3)
dichlorodifluoromethane	ND(2)	ND(3)
1,1-dichloroethane	5900-6450(2)	<1(3)
1,2-dichloroethane	49-59(2)	ND(3)
1,1-dichloroethene	1100-1150(2)	ND(3)
c-1,2-dichloroethene	15200-17500(2)	<1(3)
t-1,2-dichloroethene	200-220(2)	ND(3)
trans-1,3-dichloropropene	NA	NA
ethylbenzene	36-42(2)	ND(3)
methylene chloride	ND(2)	ND(3)
4-methyl-2-pentanone	212-226(2)	ND(3)
tetrachloroethene	56-61(2)	ND(3)
tetrahydrofuran	ND(2)	90-95(3)
toluene	1020-1290(2)	ND(3)
1,1,1-trichloroethane	6890-8100(2)	<1(3)
1,1,2-trichloroethane	71-77(2)	ND(3)
trichlorofluoromethane	NA	NA
trichloroethene	113-120(2)	ND(3)
vinyl chloride	580-600(2)	1.2J-1.4J(4)
xylenes	375-420(2)	ND(3)
<u>Base Neutral/Acid</u>		
<u>Extractable Organics (ug/L)</u>		
bis(2-ethylhexyl)phthalate	NA	NA
diethylphthalate	NA	NA
isophorone	NA	NA
2-methylnaphthalene	NA	NA
naphthalene	NA	NA
phenol	NA	NA
pyrene	NA	NA

ND - not detected

NA - not analyzed or not reported

* one value for total xylenes

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	ECC-Cooling Water Pond '79-'82	ECC-S. Drum Storage Pond '79-'82
Type:	<u>Surface Water</u>	<u>Surface Water</u>
<u>Inorganics/Indicators (mg/L)</u>		
sp. conductance (umho/cm)	NA	NA
total dissolved solids (TDS)	NA	NA
chloride	200	NA
chemical oxygen demand (COD)	26,000	5700
total organic carbon (TOC)	6000	910
sodium	230	232
nickel	0.03-0.23(6)	0.040-0.184(7)
iron	6.84	14.6
cyanide	0.016-0.052(2)	NA
hardness	NA	NA
arsenic	0.004-0.011(4)	0.001-0.18(5)
mercury	ND-0.0002-<10(7)	ND(2)
lead	ND-31(6)	0.04-1.1(8)
cadmium	0.00307-0.012(4)	0.0059-0.16(6)
chromium	ND-1.5(6)	0.04-1.1(8)
<u>Volatile Organics (mg/L)</u>		
acetone	NA	NA
benzene	ND-<300(4)	ND-<8(3)
2-butanone	NA	NA
chloroethane	NA	NA
chloroform	ND-59(4)	ND-9.1-<10(3)
1,2-dichlorobenzene	ND-0.5-<25(3)	18-27(2)
1,3-dichlorobenzene	ND-0.5-<25(3)	ND-17(2)
1,4-dichlorobenzene	ND-0.4-<22(3)	ND-15(2)
dichlorodifluoromethane	NA	NA
1,1-dichloroethane	ND-17(4)	ND(3)
1,2-dichloroethane	NA	NA
1,1-dichloroethene	ND-152-<300(4)	ND(3)
1,2-dichloroethene	<50-2848(4)	48-1541(2)
trans-1,3-dichloropropene	NA	NA
1,3-dimethylbenzene	ND-98(3)	ND(2)
1,2 + 1,4-dimethylbenzene	ND-79(3)	ND(2)
ethylbenzene	ND-600(4)	ND-1188(3)
methylbenzene	ND-974(3)	ND-1035(2)
methylene chloride	240-5470(4)	180-3873(3)
4-methyl-2-pentanone	NA	NA
tetrachloroethene	0.6-1297(4)	ND-1176(3)
toluene	2700-4100(2)	935-600,000(2)
1,1,1-trichloroethane	<900-6821(4)	ND-621(3)
1,1,2-trichloroethane	<2.8-16(2)	ND(2)
trichlorofluoromethane	ND-<2.7(2)	ND-14(2)
trichloroethene	191-3873(4)	ND-1176(3)
vinyl chloride	NA	NA
xylene	NA	NA
<u>Base Neutral/Acid Extractable Organics (mg/L)</u>		
bis(2-ethylhexyl)phthalate	NA	NA
butylbenzylphthalate	ND-1122(3)	ND-3277(2)
diethylphthalate	27-86	32-433(2)
2,4-dimethylphenol	ND-260(3)	236-349(2)
dimethylphthalate	175-311(3)	169-513(2)

Sample I.D.:	ECC-Cooling Water Pond '79-'82	ECC-S. Drum Storage Pond '79-'82
Type:	<u>Surface Water</u>	<u>Surface Water</u>
di-n-butylphthalate	<10-76(3)	<10-87(2)
isophorone	ND-3200(3)	ND(2)
2-methylnaphthalene	NA	NA
naphthalene	ND-12-<23(3)	ND-16(2)
nitrophenol	<59-270(2)	ND
pentachlorophenol	38-<170(2)	5-103(2)
phenol	396-65,300(6)	ND-28,000(8)
pyrene	NA	NA
2,4,6-trichlorophenol	ND-5-<62(3)	ND-4(2)
P-Chloro-M-Cresol	ND	91

ND-not detected

NA-not analyzed

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:

ECC-N. Drum
Storage Pond
'79 - '82
Surface Water

Type:

Inorganics/Indicators (mg/L)

sp. conductance (umho/cm)	NA
total dissolved solids (TDS)	NA
chloride	NA
chemical oxygen demand (COD)	430,000
total organic carbon (TOC)	NA
sodium	190
nickel	0.030-0.5*(5)
iron	19.8
cyanide	NA
hardness	NA
arsenic	0.0057-0.9*(4)
mercury	0.0009-<0.2*(2)
lead	0.0003-66*(5)
cadmium	0.00981-0.3*(4)
chromium	0.0016-104*(5)

Volatile Organics (ug/L)

acetone	174
benzene	463
2-butanone	NA
chloroethane	NA
chloroform	ND
1,2-dichlorobenzene	97
1,3-dichlorobenzene	92
1,4-dichlorobenzene	86
dichlorodifluoromethane	NA
1,1-dichloroethane	ND
1,2-dichloroethane	NA
1,1-dichloroethene	ND
1,2-dichloroethene	2766
trans-1,3-dichloropropene	NA
1,3-dimethylbenzene	ND
1,2 + 1,4-dimethylbenzene	ND
ethylbenzene	ND
methylbenzene	1132
methylene chloride	5548
4-methyl-2-pentanone	
tetrachloroethene	71
toluene	NA
1,1,1-trichloroethane	1266
1,1,2-trichloroethane	NA
trichlorofluoromethane	NA
trichloroethene	1398
vinyl chloride	NA
xlenes	NA

Base Neutral/AcidExtractable Organics (mg/L)

bis(2-ethylhexyl)phthalate	NA
butylbenzylphthalate	2457
diethylphthalate	ND
2,4-dimethylphenol	121
dimethylphthalate	164

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	ECC-N. Drum Storage Pond '79 - '82
Type:	<u>Surface Water</u>
di-n-butylphthalate	135
isophorone	ND
2-methylnaphthalene	NA
naphthalene	29
nitrophenol	NA
pentachlorophenol	ND
phenol	0.035 - 3,000*(4)
pyrene	NA
2,4,6-trichlorophenol	3
P-Chloro-M-Cresol	NA

ND - not detected

NA - not analyzed or not reported

* - analytical result at high end of range from oil layer sample.

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	Tank #1 <u>Leachate</u>	Tank #2 <u>Leachate</u>	Tank #3 <u>Leachate</u>
<u>Inorganics/Indicators</u> (mg/L)			
sp. conductance (umho/cm)	8300	NA	6400
(TDS)	3330c-7500(2)	4040-4800(2)	3330c-4500(2)
chloride	1900	1500	1620
chemical oxygen demand (COD))	1221c	1507	1221c
total organic carbon (TOC))	190c	155	190c
sodium	206-750(2)	623-800(3)	385-650(2)
nickel	0.039	0.099-0.101(2)	0.058
iron	44.100	21.4-24.3(2)	36.800
cyanide	ND	ND(2)	ND
hardness	3500	1370	2400
mercury	ND	ND(2)	ND
lead	ND-0.22(3)	0.031-0.13(3)	0.028-1.71(3)
<u>Volatile Organics</u> (ug/L)			
acetone	120J	ND-57,000(3)	11,000J
benzene	ND-7(2)	ND-15(6)	ND(2)
2-butanone	ND-95(2)	ND-76,260*(5)	ND-12,000(2)
chloroethane	ND	ND(3)	ND
chloroform	ND-13	ND-32(5)	ND(2)
dichlorodifluoromethane	ND	ND(2)	ND
1,1-dichloroethane	ND(2)	ND-25(4)	ND-460(2)
1,2-dichloroethane	ND(2)	ND(5)	ND(2)
1,1-dichloroethene	ND(2)	ND(5)	ND(2)
1,2-dichloroethene	ND	ND(4)	1300
trans-1,3-dichloropropene	ND	ND(4)	ND
ethylbenzene	84	30-280(4)	ND
methylene chloride	7-1690(2)	ND-120(5)	ND-2200(2)
4-methyl-2-pentanone	72	11-9700(4)	2000
tetrachloroethene	ND	ND(4)	ND
toluene	55	ND-23(4)	ND
1,1,1-trichloroethane	ND(3)	ND(6)	ND(3)
trichlorofluoromethane	NA	ND	NA
trichloroethene	ND-0.08c(3)	ND-0.14(4)	ND-0.08c(3)
vinyl chloride	ND	ND(2)	ND
xylene	480	450-2090*(4)	11,000
<u>Base Neutral/Acid Extractable Organics</u> (ug/L)			
benzoic acid	180J	ND(2)	1460J
bis(2-ethylhexyl)phthalate	20J	ND-24J	650J
4-chloro-3-methylphenol	15J	ND(2)	ND
diethylphthalate	27J	21J-24J	71J
2,4-dimethylphenol	ND	ND-13Z(2)	ND
isophorone	73J	ND(2)	ND
2-methylnaphthalene	ND	ND(2)	ND
4-methylphenol	37J	ND(2)	1350J
naphthalene	ND	16J-23J(2)	ND
phenol	ND	7J-15Z(3)	370J
pyrene	ND	ND(2)	ND

ND - not detected

NA - not analyzed or not reported or not reported

c - composite of tanks 1 and 3

* - unclear value on lab report

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value) or Z (coelution with other compounds).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	LL001	LL002	
Type:	(NSL-RI-DATA)	(NSL-RI-DATA)	S.E. Seep
	<u>Leachate</u>	<u>Leachate</u>	<u>Leachate</u>
<u>Inorganics/Indicators (mg/L)</u>			
sp. conductance (umho/cm)	NA	NA	NA
total dissolved solids (TDS)	316	5590	NA
chloride	13	871	NA
chemical oxygen demand (COD)	NA	NA	NA
total organic carbon (TOC)	NA	NA	NA
sodium	6.0	345	NA
nickel	ND	0.12	NA
iron	3.48	65	NA
cyanide	ND	ND	NA
hardness	NA	NA	NA
mercury	ND	ND	NA
lead	0.01	0.042	NA
<u>Volatile Organics (ug/L)</u>			
acetone	ND	44,000B,J	NA
benzene	ND	ND	11
2-butanone	ND	27,000B,J	NA
chloroethane	ND	ND	ND
chloroform	ND	ND	ND
dichlorodifluoromethane	NA	NA	758
1,1-dichloroethane	ND	ND	45
1,2-dichloroethane	ND	ND	ND
1,1-dichloroethene	ND	ND	ND
1,2-dichloroethene	ND	ND	436
trans-1,3-dichloropropene	ND	ND	NA
ethylbenzene	ND	ND	ND
methylene chloride	ND	2800B	ND
4-methyl-2-pentanone	ND	3500J	981*
tetrachloroethene	ND	ND	123
toluene	ND	ND	ND
1,1,1-trichloroethane	ND	ND	67
trichlorofluoromethane	NA	NA	72
trichloroethene	ND	ND	73
vinyl chloride	ND	ND	410
xylene	ND	ND	ND
<u>Base Neutral/Acid</u>			
<u>Extractable Organics (ug/L)</u>			
bis(2-ethylhexyl)phthalate	ND	ND	ND
diethylphthalate	ND	ND	54
isophorone	ND	ND	ND
2-methylnaphthalene	ND	ND	NA
naphthalene	ND	ND	ND
phenol	ND	ND	1758
pyrene	ND	ND	ND

ND - not detected

NA - not analyzed or not reported or not reported

* - tentatively identified compound

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.: Type:	CO 183 <u>Leachate</u>	CO 184 <u>Leachate</u> (Blank)
<u>Inorganics/Indicators</u> (mg/L)		
sp. conductance (umho/cm)	2250	NA
total dissolved solids (TDS)	580*	ND
chloride	250	13
chemical oxygen demand (COD)	6	ND
total organic carbon (TOC)	NA	NA
sodium	100	6.4
nickel	0.040	ND
iron	0.400	ND
cyanide	ND	ND
hardness	NA	NA
mercury	ND	ND
lead	ND	ND
<u>Volatile Organics</u> (ug/L)		
acetone	5050.1	ND
benzene	ND	ND
2-butanone	3211.6	ND
chloroethane	NA	NA
chloroform	ND	5
dichlorodifluoromethane	NA	NA
1,1-dichloroethane	ND	ND
1,2-dichloroethane	ND	ND
1,1-dichloroethene	ND	ND
1,2-dichloroethene	ND	ND
trans-1,3-dichloropropene	ND	ND
ethylbenzene	ND	ND
methylene chloride	196.1	ND
4-methyl-2-pentanone	528.7	ND
tetrachloroethene	ND	ND
toluene	5.0	ND
1,1,1-trichloroethane	ND	ND
trichlorofluoromethane	NA	NA
trichloroethene	ND	ND
vinyl chloride	NA	NA
xylene	ND	ND
<u>Base Neutral/Acid</u> <u>Extractable Organics</u> (ug/L)		
bis(2-ethylhexyl)phthalate	ND	ND
diethylphthalate	ND	ND
isophorone	ND	ND
4-methylphenol	56	ND
2-methylnaphthalene	ND	ND
naphthalene	ND	ND
phenol	202	ND
pyrene	ND	ND

ND - not detected

NA - not analyzed or not reported or not reported

* - A value of 1860 mg/L is listed for "Solids-Dissolved" in same data set

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

Ranges of Water Quality Results, Selected Constituents,
NSL and ECC Sites, Boone County, Indiana

Sample I.D.:	Trash Trench N. #1	Trash Trench N. #2	Water Sample Trench #4
Type:	<u>Leachate</u>	<u>Leachate</u>	<u>Leachate</u>
<u>Inorganics/Indicators</u> (mg/L)			
sp. conductance (umho/cm)	3260	2690	620
total dissolved solids (TDS)	1812	2084	512
chloride	420	430	18
chemical oxygen demand (COD))	NA	NA	NA
total organic carbon (TOC))	NA	NA	NA
sodium	230	170	17
nickel	NA	NA	NA
iron	NA	NA	NA
cyanide	NA	NA	NA
hardness	1000	1170	390
mercury	NA	NA	NA
lead	0.04	0.10	ND
<u>Volatile Organics</u> (ug/L)			
acetone	NA	NA	NA
benzene	NA	NA	NA
2-butanone	NA	NA	NA
chloroethane	NA	NA	NA
chloroform	NA	NA	NA
dichlorodifluoromethane	NA	NA	NA
1,1-dichloroethane	NA	NA	NA
1,2-dichloroethane	ND	ND	ND
1,1-dichloroethene	0.053	0.060	ND
1,2-dichloroethene	NA	NA	NA
trans-1,3-dichloropropene	NA	NA	NA
ethylbenzene	NA	NA	NA
methylene chloride	NA	NA	NA
4-methyl-2-pentanone	NA	NA	NA
tetrachloroethene	NA	NA	NA
toluene	NA	NA	NA
1,1,1-trichloroethane	0.001	0.001	ND
trichlorofluoromethane	NA	NA	NA
trichloroethene	ND	ND	ND
vinyl chloride	NA	NA	NA
xylene	NA	NA	NA
<u>Base Neutral/Acid</u>			
<u>Extractable Organics</u> (ug/L)			
bis(2-ethylhexyl)phthalate	NA	NA	NA
diethylphthalate	NA	NA	NA
isophorone	NA	NA	NA
2-methylnaphthalene	NA	NA	NA
naphthalene	NA	NA	NA
phenol	NA	NA	NA
pyrene	NA	NA	NA

ND - not detected

NA - not analyzed or not reported or not reported

Note: Value in parenthesis is the number of data points. The middle number if present represents the highest value without EPA qualifications by B (present in blank) or J (estimated value).

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**SURFACE WATER SAMPLING LOCATIONS
AT NSL AND ECC SITES,
BOONE COUNTY, INDIANA**

PREPARED FOR

MISHKIN, CROMER, EAGLESFIELD & MAHER, p.a.

FIGURE 3